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## THIRD SESSION OF THE TWELFTH PARLIAMENT

OF THE

## DOMINION OF CANADA

## SESSION 1914

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(This volume is bound in three parts.)

**1.** Report of the Auditor General for the year ended March 31, 1913. VolumeI, Parts A to J, and Volume II, Parts K to U. Presented by Hon. Mr. Foster, January 28, 1914.
*Printed for distribution and sessional papers.*

**1.** Report of the Auditor General for the year ended March 31, 1913, Volume III, Parts V to Y. Presented by Hon. Mr. White, January 19, 1914.
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**2.** The Public Accounts of Canada, for the fiscal year ended March 31, 1913. Presented by Hon. Mr. White, January 19, 1914.....*Printed for distribution and sessional papers.*

**3.** Estimates of sums required for the service of the Dominion for the year ending March 31, 1915. Presented by Hon. Mr. White, January 29, 1914.
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**3*a*.** Supplementary Estimates of sums required for the service of the Dominion for the year ending March 31, 1914. Presented by Hon. Mr. White, March 20, 1914.
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**4.** Supplementary Estimates of sums required for the service of the Dominion for the year ending March 31, 1915. Presented by Hon. Mr. White, May 28, 1914.
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**5.** Further Supplementary Estimates of sums required for the service of the Dominion for the year ending March 31, 1915. Presented by Hon. Mr. White, June 9, 1914.
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**8.** Report of Superintendent of Insurance for year ended 1913. Presented by Hon. Mr. White, June 2, 1914.
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**10.** Report of the Department of Trade and Commerce for the fiscal year ended March 31, 1913, Part I.—Canadian Trade. Presented by Hon. Mr. Foster, April 15, 1914.
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**10*a*.** Report of the Department of Trade and Commerce, for the year ended March 31, 1913: Part II.—Canadian Trade with (1) France, (2) Germany, (3) United Kingdom, and (4) United States. Presented by Hon. Mr. Foster, January 22, 1914.
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**10*c*.** Report of the Department of Trade and Commerce, for the fiscal year ended March 31, 1913: Part IV.—Miscellaneous Information. Presented by Hon. Mr. Foster, April 27, 1914 .....*Printed for distribution and sessional papers.*

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**10*f*.** Report of Trade and Commerce for fiscal year ended March 31, 1913: Part VII.—Trade of Foreign Countries, Treaties and Conventions. Presented by Hon. Mr. Foster, 1914.
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**42.** Return to an Order of the House of May 12, 1913.—1. For a Return showing the respective names, duties and salaries of Officials of the Immigration Department of both Inside and Outside Service on March 31, 1911.

2. The respective names, duties and salaries of Officials of the Immigration Department of both Inside and Outside Service on March 31, 1913. Presented January 19, 1914.—*Mr. Oliver* ..... *Not printed.*

**43.** Return to an Order of the House of February 24, 1913, for a copy of all regulations relating to the disposition of Dominion Lands made by the Minister of the Interior from October 12, 1911, to January 1, 1912, and of the regulations for the placing of half-breed scrip on homestead or other lands, made by the Minister of the Interior from October 12, 1911, to January 1, 1912. Presented January 19, 1914.—*Mr. Oliver.*
*Not printed.*

**44.** Return to an Order of the House of January 15, 1913, for a copy of all charges, correspondence, letters, telegrams nd other documents relative to the dismissal of Horace Rindress, Quarantine Medical Officer at North Sydney, in the Riding of North Cape Breton and Victoria, and of the evidence taken and report of investigation held by H. P. Duchemin, in regard to same, and a detailed statement of the expenses of such investigation. Presented January 19, 1914.—*Mr. McKenzie*.....*Not printed.*

**44*a*.** Supplementary Return to an Order of the House of December 11, 1912, for a copy of all papers, documents and correspondence relating to the dismissal of A. T. Doucet, Postmaster and Collector of Customs at Salmon River, Digby County, N.S. Presented January 19, 1914.—*Mr. Maclean (Halifax)*.....*Not printed.*

**44*b*.** Return to an Order of the House of April 21, 1913, for a copy of the charges made against Alexis Bourque, Storm Signal Agent at Bonaventure, on which he was dismissed by the Minister of Marine and Fisheries, and a copy of all letters and other documents bearing on the appointment of his successor. Presented January 23, 1914.—*Mr. Marcil (Bonaventure)*..... ..... *Not printed.*

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**44***c*. Return to an Order of the House of January 29, 1913, for a copy of all letters, petitions, telegrams, complaints, evidence, reports and other papers and documents in the possession of the Department of Marine and Fisheries, or any Department of the Government, relating to the dismissal of Patrick Conway, Lightkeeper at White Head Island, N.S., and if there was an investigation the names of the witnesses, a copy of the evidence, and a detailed statement of the expenses of such investigation. Presented January 21, 1914.—*Mr. Sinclair*..... *Not printed.*

**44***d*. Return to an Order of the House of May 7, 1913, for a copy of all papers, documents, telegrams and correspondence in connection with the dismissal of Captain Wm. Smith, Coxswain, of the lifeboat at Blanche, Shelburne County, N.S. Presented January 21, 1914.—*Mr. Law*..... *Not printed.*

**44***e*. Return to an Order of the House of March 3, 1913, for a Return showing in detail the number of dismissals from public offices and positions of employment by the present Government since the 11th day of October, 1911, to this date, in the County of King's, Province of Nova Scotia, in connection with any of the Departments of the public service, not including cases in which orders have already passed; together with the names of the dismissed officials or employees, the reason for their respective dismissals, the complaints or charges against them, and by whom made; together with a copy of all correspondence, letters, telegrams and other communications with respect to each such case of dismissal, and of all minutes of evidence of investigations, where any such were held, and of all reports relating to such dismissals now in the possession of any of the Departments of the Government, also the names of all parties appointed to fill the vacancies caused by such dismissals, and the names of the persons by whom the same have been respectively recommended for appointment; together with a detailed statement of all amounts and expenses paid, or to be paid, by any Department in connection with the said dismissals and investigations or removals from office. Presented January 21, 1914.—*Mr. McKenzie*.....*Not printed.*

**44***f*. Return to an Order of the House of the 23rd April, 1913, for a copy of the charges made by Messrs. J. A. Mousseau, A. Godbout and J. Blondin, against Jos. E. A. Landry, keeper of the lighthouse at St. Omer, Quebec, on which he was dismissed for alleged political partisanship. Presented January 21, 1914.—*Mr. Marcil (Bonaventure)*. *Not printed.*

**44***g*. Return to an Order of the House of the 29th January, 1913, for a copy of all charges, correspondence, letters, telegrams and other documents relating to the dismissal of Colin McIsaac, preventive officer at Port Hood, Inverness County, N.S. Presented January 21, 1914.—*Mr. Chisholm (Inverness)*.....*Not printed.*

**44***h*. Return to an Order of the House of the 19th May, 1913, for a copy of all petitions and correspondence relating to the dismissal of Mr. Pesha, postmaster at Kent Bridge, Ontario. Presented January 22, 1914.—*Sir W. Laurier*.....*Not printed.*

**44***i*. Return to an Order of the House of the 29th January, 1913, for a copy of all letters, petitions, telegrams, complaints, evidence, reports and other papers and documents in the possession of the Post Office Department or any department of the Government, relating to the dismissal of John F. Reeves, postmaster at Mulgrave, N.S., and if there was an investigation, the names of all witnesses examined, a copy of the evidence, and a detailed statement of the expenses of such investigation. Presented January 22, 1914.—*Mr. Sinclair*..... *Not printed.*

**44***j*. Return to an Order of the House of the 29th January, 1913, for a copy of all charges, correspondence, letters, telegrams and other documents relating to the dismissal of Havelock McLeod, postmaster at Big Intervale, North East Margaree, Inverness County, Nova Scotia. Presented January 22, 1914.—*Mr. Chisholm (Inverness)*.....*Not printed.*

**44***k*. Return to an Order of the House of the 21st April, 1913, for a copy of all documents, petitions, correspondence, messages, inquiries, reports, &c., relating to the dismissal of S. Lapointe, postmaster of St. Eloi, County of Temiscouata, and to the appointment of his successor. Presented January 22, 1914.—*Mr. Gauvreau*.....*Not printed.*

**44***l*. Return to an Order of the House of the 3rd February, 1913, for a copy of all correspondence, letters, telegrams and other documents relative to the dismissal of William Bow, postmaster at Winchester Village, County of Dundas, and of all recommendations for the appointment of his successor. Presented January 22, 1914.—*Mr. MacNutt.* *Not printed.*

**44***m*. Return to an Order of the House of the 26th March, 1913, for a copy of all charges, correspondence, letters, telegrams, petitions and other documents relating to the dismissal of Mrs. Ellen O'Neil, postmistress at O'Neil's post office, Parish of Moncton, County of Westmorland, New Brunswick, and of all evidence, if any, taken in regard to the same, and of all reports concerning same; and also a copy of all recommendations, correspondence, letters, telegrams, petitions and other documents relating to the appointment of a successor, or of Robert C. Kelly as postmaster of or at the said O'Neil post office, and of all reports, if any, as to the proper location of the office. Presented January 22, 1914.—Mr. Emmerson .....*Not printed.*

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**44*n*.** Return to an Order of the House of the 21st April, 1913, for a copy of the charges made against Alex. Labillois, postmaster of Miguasha, on which his dismissal took place, and of all letters and documents regarding the appointment of John Caissy in his place. Presented January 22, 1914.—*Mr. Marcil (Bonaventure)*.....*Not printed.*

**44*o*.** Return to an Order of the House of the 21st April, 1913, for a copy of all letters and other documents containing evidence or charges against Madame Z. Marcotte, postmistress of Nouvelle West, Bonaventure County, on which the Postmaster General acted in removing her from office, and also of letters and other documents regarding the appointment of Mr. Lazare Fallu in her stead. Presented January 22, 1914.—*Mr. Marcil (Bonaventure)* .....*Not printed.*

**44*p*.** Return to an Order of the House of the 28th April, 1913, for a copy of all complaints, accusations, correspondence, petitions, and telegrams respecting the dismissal of Joseph Verault, postmaster at Guay, County of Lévis, of the evidence and report made following the inquiries held by the inquiring Commissioner Smith and the inquiring Commissioner Jolicœur in this matter; also the names of the witnesses summoned and heard, with a copy of the evidence heard at each inquiry, the names of those who represented the Government at these inquiries, and a detailed statement of the expenses caused by these inquiries, with a copy of all documents respecting the appointment of his successor, such as petitions, letters of recommendation, &c. Presented January 22, 1914.—*Mr. Bourassa* ..... *Not printed.*

**44*q*.** Return to an Order of the House of the 2nd June, 1913, for a copy of all telegrams, papers and correspondence in the possession of the Post Office Department, or with any of the officials thereof, regarding the removal from office of the postmaster of Osage, Saskatchewan, and of the appointment of a successor thereto; and of all correspondence bearing upon the said removal or appointment with the post office inspector for that portion of the province of Saskatchewan, and of all other letters and documents with respect thereto. Presented January 22, 1914.—*Mr. Carvell*.....*Not printed.*

**44*r*.** Return to an Order of the House of the 29th January, 1913, for a copy of all letters, petitions, telegrams, complaints, evidence, reports and other papers and documents in the possession of the Post Office Department, or any department of the Government, relating to the dismissal of George Taylor, postmaster at Bickerton, N.S., and if there was an investigation, the names of all witnesses examined, a copy of the evidence and a detailed statement of the expenses of such investigation. Presented January 22, 1914.—*Mr. Sinclair* ..... *Not printed.*

**44*s*.** Return to an Order of the House of the 21st April, 1913, for a copy of all correspondence, telegrams, complaints, affidavits, reports, recommendations, requests, certificates and other documents, relating to the dismissal of Mademoiselle Paul Hus, as postmistress of the Parish Ste. Victoire, County of Richelieu, and the appointment of Mr. Paul Bardier, of the same place, as postmaster. Presented January 22, 1914.—*Mr. Cardin.*
*Not printed.*

**44*t*.** Return to an Order of the House of the 3rd March, 1913, for a copy of all charges, correspondence, letters, telegrams and other documents relating to the dismissal of Parker S. Hart, postmaster at South Manchester, Guysborough County, N.S., and of all evidence taken and report of investigation held by H. P. Duchemin in regard to the same, and also a detailed statement of the expenses of such investigation. Presented January 22, 1914.—*Mr. Sinclair* ..... *Not printed.*

**44*u*.** Return to an Order of the House of the 17th February, 1913, for a copy of all complaints and charges made against Charles L. Gass, late postmaster at Bayfield, Antigonish County, of the evidence taken, if any, before Commissioner Duchemin, and of his report thereon, and of all letters, telegrams and documents of every kind relating to his dismissal and the appointment of his successor. Presented January 22, 1914.—*Mr. Chisholm (Antigonish)* .....*Not printed.*

**44*v*.** Return to an Order of the House of the 27th January, 1913, for a copy of all documents, correspondence, letters, reports, &c., relating to the dismissal of Madame Belzil, postmistress at St. Octave, County of Rimouski, and the appointment of her successor. Presented January 22, 1914.—*Mr. Lapointe (Kamouraska)*.....*Not printed.*

**44*w*.** Return to an Order of the House of the 9th April, 1913, for a copy of all charges, correspondence, telegrams and other documents relating to the dismissal of John McDonnell, postmaster at Essex, Inverness County, Nova Scotia. Presented January 22, 1914.—*Mr. Chisholm (Inverness)*.....*Not printed.*

**44*x*.** Return to an Order of the House of the 31st March, 1913, for a copy of all letters, telegrams and documents in connection with the dismissal of James Bain, from the postmastership of Ninga post office, Ninga, Manitoba. Presented January 22, 1914.—*Mr. Turriff* ..... *Not printed.*

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**44***y*. Return to an Order of the House of the 9th April, 1913, for a copy of all letters, petitions, telegrams, complaints, reports and other papers and documents in the possession of the Post Office Department, relating to the dismissal of William McKinnon, postmaster at Erinville, Guysborough County, N.S., and the appointment of Daniel Kenny as successor; and if there was an investigation in connection with the dismissal of the said William McKinnon, the names of all witnesses examined, a copy of the evidence and report of the commissioner, and a detailed statement of the expenses of such investigation. Presented January 22, 1914.—*Mr. Sinclair*.....*Not printed.*

**44***z*. Return to an Order of the House of the 7th May, 1913, for a copy of all correspondence, evidence and reports in connection with the dismissal of J. N. Cloutier, postmaster at St. Benoit Labre, County of Beauce, Quebec. Presented January 22, 1914.—*Mr. Béland.* *Not printed.*

**44** (2*a*). Return to an Order of the House of the 12th February, 1913, for a copy of all letters, telegrams, papers and documents relative to the dismissal of Mrs. Weave, postmistress at Coal Creek, Queens County, N.B., and of the appointment of Michael L. Knox. Presented January 22, 1914.—*Mr. McLean (Sunbury)*.....*Not printed.*

**44** (2*b*). Return to an Order of the House of the 26th May, 1913, for a copy of all correspondence and documents of any kind whatsoever relating to the dismissal of postmasters in Bonaventure County, by the present administration, not already ordered and brought down. Presented January 22, 1914.—*Mr. Marcil (Bonaventure)*.....*Not printed.*

**44** (2*c*). Return to an Order of the House of the 28th April, 1913, for a copy of all petitions, complaints, and correspondence containing any charges against Alexander Fraser, postmaster at Fraser's Grant, Antigonish County, N.S., and of all other documents and correspondence on the file in relation thereto. Presented January 22, 1914.—*Mr. Chisholm (Antigonish)* .....*Not printed.*

**44** (2*d*). Partial return to an Order of the House of the 10th December, 1912, for a return showing all public officers removed by the present Government in the District of Portneuf, together with the name and duties of each person, the reasons for their dismissal, the nature of the complaints brought against them, also a copy of all correspondence relating thereto and reports of inquiries in cases where such were held. Presented January 22, 1914.—*Mr. Delisle* ..... *Not printed.*

**44** (2*e*). Return to an Order of the House of the 15th January, 1913, for a return showing a list of the postmasters dismissed or removed by the present Government in the County of Two Mountains, the names of such persons, the reason for their dismissal, the nature of the complaints brought aginst them, and a copy of all correspondence and petitions relating thereto, and reports of inquiry in the cases where such have been held; also the names of their successors. Presented January 22, 1914.—*Mr. Ethier*....*Not printed.*

**44** (2*f*). Return to an Order of the House of the 15th January, 1913, for a copy of all charges, correspondence, letters, telegrams and other documents relative to the dismissal of Thomas Chalmer McLean, postmaster at Ivera, Middle River, Riding of North Cape Breton and Victoria, N.S., and of the evidence taken and reports of investigation held by H. P. Duchemin in regard to the same, and a detailed statement of the expenses of such investigation. Presented January 22, 1914.—*Mr. McKenzie*.....*Not printed.*

**44** (2*g*). Return to an Order of the House of the 29th January, 1913, for a copy of all letters, telegrams, reports and other documents relative to the dismissal of C. P. Blanchard, postmaster at Truro, Nova Scotia, and the appointment of his successor. Presented January 22, 1914.—*Mr. Macdonald* .....*Not printed.*

**44** (2*h*). Return to an Order of the House of the 29th January, 1913, for a copy of all papers, documents, evidence, reports, letters, correspondence, &c., relating to the dismissal of Samuel Atwood, Atwood's Brook, Shelburne County, N.S. Presented January 22, 1914.—*Mr. Law* .....*Not printed.*

**44** (2*i*). Return to an Order of the House of the 3rd February, 1913, for a return showing the names of the postmasters in the County of Berthier dismissed since the 21st September, 1911; their respective parishes, the date of their dismissals and the reason alleged; if an inquiry was held in each case; on whose recommendation were these dismissals made; the names of those appointed as their successors and on whose recommendation were they appointed. Presented January 22, 1914.—*Mr. Béland*.....*Not printed.*

**44** (2*j*). Return to an Order of the House of the 3rd March, 1913, for a copy of all complaints, accusations, correspondence, petitions and telegrams, respecting the dismissal of Wilfrid Pellemarre, postmaster at Hervey Junction, County of Portneuf, and of all documents respecting the appointment of his successor, such as petitions, letters of recommendation, &c., and also of the evidence and reports made after the inquiry held by the inquiring commissioner; together with a detailed statement of the expenses caused by this inquiry. Presented January 22, 1914.—*Mr. Delisle*.....*Not printed.*

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**44** (2*k*). Return to an Order of the House of the 10th February, 1913, for a copy of all letters, petitions, telegrams, complaints, evidence, reports and other papers and documents in the possession of the Post Office Department, or any department of the Government, relating to the dismissal of Rufus D. Carrigan, postmaster at Sand Point, Guysborough County, N.S., and if there was an investigation, the names of all witnesses examined, and a detailed statement of the expenses of such investigation. Presented January 22, 1914.—*Mr. Sinclair* ..... *Not printed.*

**44** (2*l*). Return to an Order of the House of the 15th January, 1913, for a copy of all charges, correspondence, letters, telegrams and other documents relative to the dismissal of Daniel Dunlop, postmaster at New Campbellton, Riding of North Cape Breton and Victoria, N.S., and of the evidence taken and reports of the investigation held by H .P. Duchemin in regard to the same, and a detailed statement of the expenses of such investigation. Presented January 22, 1914.—*Mr. McKenzie*..... *Not printed.*

**44** (2*m*). Return to an Order of the House of the 9th April, 1913, for a copy of all charges, correspondence, telegrams and other documents relating to the dismissal of Duncan Cameron, postmaster at Craigmore, Inverness County, Nova Scotia. Presented January 22, 1914. —*Mr. Chisholm (Inverness)*..... *Not printed.*

**44** (2*n*). Return to an Order of the House of the 29th January, 1913, for a copy of all letters, telegrams, reports, charges and other documents relating to the dismissal of Angus Cameron, late postmaster at Fairlight, Sask., and of the evidence taken at the investigation held by Mr. Dorsett. Presented January 22, 1914.—*Mr. Turriff*.... *Not printed.*

**44** (2*o*). Return to an Order of the House of the 15th January, 1913, for a copy of all documents, correspondence, petitions and telegrams respecting the dismissal of M. Sauriol, postmaster of St. Janvier, County of Terrebonne, and the appointment of his successor. Presented January 22, 1914.—*Mr. Ethier*..... *Not printed.*

**44** (2*p*.) Return to an Order of the House of the 2nd June, 1913, for a copy of all petitions, letters, telegrams and resolutions in connection with the changes made in the names of the post offices at Letches Creek Crossing and Letches Creek, North Cape Breton, N.S., the dismissal of Donald Johnston, the former postmaster at Letches Creek, and the appointment of his successor. Presented January 22, 1914.—*Mr. McKenzie.* *Not printed.*

**44** (2*q*). Return to an Order of the House of the 27th January, 1913, for a copy of all letters, documents, telegrams, reports, correspondence and recommendations in any way relating to the dismissal of James McLees, postmaster at Bishop Mills, County of Grenville, Province of Ontario, and the appointment of his successor. Presented January 22, 1914. —*Mr. Proulx* ..... *Not printed.*

**44** (2*r*). Return to an Order of the House of the 9th April, 1913, for a copy of all charges, correspondence, telegrams and other documents relating to the dismissal of Mrs. Sarah C. Rankin, postmistress at S. W. Ridge Mabou, Inverness County, Nova Scotia. Presented January 22, 1914.—*Mr. Chisholm (Inverness)*..... *Not printed.*

**44** (2*s*).Partial Return to an Order of the House of the 19th March, 1913, for a Return showing in detail the number of dismissals from the public service during the period from June 23, 1896, to September 21, 1911, in the County of Cumberland, Nova Scotia, in connection with any department of the public service; together with the names of the dismissed officials or employees, their ages at the time of entering the public service, the length of their period of service with dates, the amount of their remuneration, the reason for their respective dismissals, the complaints or charges against them, and by whom made; together with a copy of all correspondence, letters, telegrams and other communication with respect to each such case of dismissal, and of all minutes of evidence on investigation, where any such were held, and of all reports relating to such dismissals now in the possession of any of the departments of the government; also the names of all persons appointed to fill vacancies caused by such dismissals, their ages at the date of appointment, the amount of their remuneration, and the names of the persons by whom the same have been respectively recommended for appointment; together with a detailed statement of all amounts and expenses paid by any department in connection with said dismissals and investigations or removal from office. Presented January 22, 1914.—*Mr. Rhodes*..... *Not printed.*

**44** (2*t*). Partial Return to an Order of the House of the 29th April, 1913, for a Return showing all employees of the Dominion dismissed in the County of Three Rivers and St. Maurice since October 15, 1911, to date, the date of dismissal, the employment of each man, the salary he was receiving at the time of his dismissal, the reason for dismissal, whether there has been an investigation or not, with the names and places of residence of the men appointed to replace them. Presented January 22, 1914.—*Mr. Bureau.* *Not printed.*

**44** (2*u*). Partial Return to an Order of the House of the 10th December, 1912, for a return showing the number of dismissals from public offices by the present Government to this date in the constituency of Regina, together with the names of the dismissed officials, the reasons for their dismissals, the complaints against such officials, and a copy of all correspondence relating thereto and reports of inquiries in cases where such have been held in respect of the same. Presented January 22, 1914.—*Mr. Martin (Regina).* *Not printed.*

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**44 (2*v*).** Return to an Order of the House of the 10th December, 1912, for a return showing all the public officers dismissed by the present Government in the electoral district of Kamouraska, with the names and duties of such persons respectively, the reason for their dismissal, the nature of the complaints brought against them, also of all correspondence relating thereto and reports of inquiries in cases where such have been held. Presented January 22, 1914.—*Mr. Lapointe (Kamouraska)*.....*Not printed.*

**44 (2*w*).** Partial Return to an Order of the House of the 10th February, 1913, for a return showing in detail the number of dismissals from public offices by the present Government to this date in the County of Prince, Prince Edward Island, giving the names of the dismissed officials, the reasons for their dismissal, the complaints against such officials and a copy of all the correspondence with respect to the same and of all notes of evidence and reports of investigations where such were held; also the names of all parties appointed to fill the vacancies caused by such dismissals and the names of the persons by whom the same have been recommended for appointment. Presented January 22, 1914.—*Mr. Richards*.....*Not printed.*

**44 (2*x*).** Return to an Order of the House of the 10th December, 1912, for a return showing the detail and number of dismissals from public offices by the present Government to this date in the riding of Strathcona, together with the names of the dismissed occupants, the reasons for their dismissal, the complaints against such officials, and a copy of all correspondence with respect to the same, and of all reports of investigations, where such were held. Presented January 22, 1914.—*Mr. Douglas*.....*Not printed.*

**44 (2*y*).** Partial Return to an Order of the House of the 10th December, 1912, for a return showing the detail and number of dismissals from public offices by the present Government to this date in the riding of Saltcoats, Sask., together with the names of the dismissed occupants, the reasons for their dismissal, the complaints against such officials, and a copy of all correspondence with respect to the same, and all reports of investigations, in cases where such were held. Presented January 22, 1914.—*Mr. MacNutt.* *Not printed.*

**44 (2*z*).** Return to an Order of the House of the 28th April, 1913, for a return showing all employees dismissed in the County of Champlain since October 15, 1911, to date, the employment of each man, the salary each was receiving at the time of his dismissal, the reasons for dismissals, whether there has been any investigation or not, with the names and places of residence of the men appointed to replace them. Presented January 22, 1914.—*Mr. Bureau*.....*Not printed.*

**44 (3*a*).** Return to an Order of the House of the 3rd March, 1913, for a return showing in detail the number of dismissals from public offices and position of employment, by the present Government since the 11th day of October, 1911, to this date, in the County of Cumberland, Nova Scotia, not including those for which returns have already been ordered, in connection with any of the departments of the public service; together with the names of the dismissed officials or employees, the reason for their respective dismissals, the complaints or charges against them, and by whom made; together with a copy of all correspondence, letters, telegrams and other communications with respect to each such case of dismissal, and of all minutes of evidence of investigations, where any such were held, and of all reports relating to such dismissals now in the possession of any of the departments of the government; also the names of all parties appointed to fill the vacancies caused by such dismissals, and the names of the persons by whom the same have been respectively recommended for appointment; together with a detailed statement of all amounts and expenses paid by any department in connection with the said dismissals and investigations or removal from office. Presented January 22, 1914. —*Mr. Kyte*.....*Not printed.*

**44 (3*b*).** Return to an Order of the House of the 3rd February, 1913, for a return showing in detail the number of dismissals from public offices and positions of employment, by the present Government since the first day of October, 1911, to this date, in the County of Westmorland, New Brunswick, in connection with any of the departments of the public service; together with the names of the dismissed officials or employees, the reason for their respective dismissals, the complaints or charges against them, and by whom made, save and except the case of George H. Cochrane, Collector of Customs at Moncton (the papers for which have been already moved for); together with a copy of all correspondence, letters, telegrams and other communications with respect to each such case of dismissal, and of all minutes of evidence of investigations, where any such were held, and of all reports relating to such dismissals now in the possession of any of the departments of government, or of the Government Railways Managing Board, or of the officials of the Intercolonial and the Prince Edward Island Railway; also the names of all parties appointed to fill the vacancies caused by such dismissals, and the names of the persons by whom the same have been respecitvely recommended for appointment; together with a detailed statement of all amounts and expenses paid by any department in connection with the said dismissals and investigations or removals from office. Presented January 22, 1914.—*Mr. Emmerson*.....*Not printed.*

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**44** (3*c*). Partial Return to an Order of the House of the 3rd March, 1913, for a return showing in detail the number of dismissals from public offices and positions of employment by the present Government since the 11th day of October, 1911, to this date, in the County of Annapolis, Nova Scotia, in connection with any of the departments of the public service, but not including cases in which orders have already passed together with the names of the dismissed officials or employees, the reason for their respective dismissals, the complaints or charges against them, and by whom made; together with a copy of all correspondence, letters, telegrams and other communications with respect to each such case of dismissal, and of all minutes of evidence of investigations, where any such were held, and of all reports relating to such dismissals now in the possession of any of the departments of the Government; also the names of all parties appointed to fill vacancies caused by such dismissals ,and the names of the persons by whom the same have been respectively recommended for appointment; together with a detailed statement of all amounts and expenses paid by any department in connection with the said dismissals and investigations or removals from office. Presented January 22, 1914.—*Mr. Chisholm (Antigonish)*.....*Not printed.*

**44** (3*d*). Return to an Order of the House of the 28th April, 1913, for a return showing all employees dismissed in the County of Nicolet since October 15, 1911, to date, the date of dismissal, the employment of each man, the salary he was receiving at the time of his dismissal, the reasons for dismissal, whether there has been an investigation or not, with the names and places of residence of the men appointed to replace them. Presented January 22, 1914.—*Mr. Bureau*.....*Not printed.*

**44** (3*e*). Return to an Order of the House of the 29th January, 1913, for a return showing in detail the number of dismissals from public offices by the present Government to this date in the constituency of Victoria, Alberta, together with the names of the dismissed officials, the reason of their dismissal, the complaints against such officials, and a copy of all correspondence with respect to the same and of all notes of evidence and of the reports of investigations where such were held; also the names of all parties appointed to fill the vacancies caused by such dismissals and the names of the persons by whom the same have been recommended for appointment. Presented January 22, 1914.—*Mr. White (Alberta)*.....*Not printed.*

**44** (3*f*). Officials dismissed in the constituency of Shelburne and Queens, N.S.—(Senate). *Not printed.*

**44** (3*g*). Postmasters dismissed in the County of Antigonish, N.S.—(*Senate*).....*Not printed.*

**44** (3*h*). Return to an Order of the House of the 29th January, 1913, for a copy of all charges, correspondence, letters, telegrams, and other documents relating to the dismissal of Dr. Freeman O'Neil, from the office of port physician at Louisburg, Cape Breton South, Nova Scotia, and of the evidence taken and reports of investigation held by H. P. Duchemin in regard to the same. Presented January 26, 1914.—*Mr. Sinclair.* *Not printed.*

**44** (3*i*). Partial Return to an Order of the House of the 3rd March, 1913, for a return showing in detail the number of dismissals from public offices and positions of employment by the present Government since the 11th day of October, 1911, to this date, in the County of Digby, Nova Scotia, in connection with any of the departments of the public service, but not including cases in which orders have already passed; together with the names of the dismissed officials or employees, the reasons for their respective dismissals, the complaints or charges against them, and by whom made; together with a copy of all correspondence, letters, telegrams and other communications with respect to each such case of dismissal, and of all minutes of evidence of investigations, where any such were held, and of all reports relating to such dismissals now in the possession of any of the departments of the Government; also the names of all parties appointed to fill the vacancies caused by such dismissals, and the names of the persons by whom the same have been respectively recommended for appointment; together with a detailed statement of all accounts and expenses paid by any department in connection with the said dismissals and investigations or removals from office. And also—Supplementary return to an Order of the House of the 3rd March, 1913, for a return showing in detail the number of dismissals from public offices and positions of employment by the present Government since the 11th day of October, 1911, to this date, in the County of Digby, Nova Scotia, in connection with any of the departments of the public service, but not including cases in which orders have already passed; together with the names of the dismissed officials or employees, the reasons for their respective dismissals the complaints or charges against them, and by whom made; together with a copy of all correspondence, letters, telegrams and other communications with respect to each such case of dismissal, and of all minutes of evidence of investigations, where any such were held, and of all reports relating to such dismissals now in the possession of any of the departments of the Government; also the names of all parties appointed to fill the vacancies caused by such dismissals, and the names of the persons by whom the same have been respectively recommended for appointment; together with a detailed statement of all accounts and expenses paid by any department in connection with the said dismissals and investigations or removals from office. Presented Janaury 22, 1914.—*Mr. Sinclair*.....*Not printed.*

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**44** (3*j*). Partial Return to an Order of the House of the 3rd March, 1913, for a return showing in detail the number of dismissals from public offices and positions of employment by the present Government since the 11th day of October, 1911, to this date, in the constituency of Queen's, Shelburne, Nova Scotia, in connection with any of the departments of the public service, not including cases in which orders have already been passed; together with the names of the dismissed officials or employees, the reason for their respective dismissals, the complaints or charges against them, and by whom made; together with a copy of all correspondence, letters, telegrams and other communications with respect to each such case of dismissal, and of all minutes of evidence of investigations, where any such were held and of all reports relating to such dismissals now in the possession of any of the departments of the Government, also the names of all parties appointed to fill the vacancies caused by such dismissals, and the names of the persons by whom the same have been respectively recommended for appointment; together with a detailed statement of all amounts and expenses paid by any department in connection with the said dismissals and investigations of removals from office. Presented January 27, 1914.—*Mr. Law*.....*Not printed.*

**44** (3*k*). Partial Return to an Order of the House of the 19th March, 1913, for a list of public officers employed in the city of Quebec, in the Departments of Inland Revenue, Railways and Canals, the Transcontinental Railway, Customs, Immigration, Marine and Fisheries, Public Works and Militia, the names and duties of such persons, the reason for their dismissal, the nature of the complaints brought against them, also a copy of all correspondence relating thereto, and of reports of inquiry in the cases where such inquiries were held. Presented January 26, 1914.—*Mr. Lachance*.....*Not printed.*

**44** (3*l*). Return to an Order of the House of the 29th January, 1913, for a return showing all the public officers removed by the present Government in the District of L'Assomption, together with the names and duties of such persons, the reasons for their dismissal, the nature of the complaints brought against them; also a copy of all correspondence relating thereto and reports of inquiries in cases where such were held, with the names of the successors of the dismissed officers. Presented January 26, 1914.—*Mr. Seguin.* *Not printed.*

**44** (3*m*). Further Supplementary Return to an Order of the House of the 7th February, 1912, for a return showing for each department of the Government the names, post office addresses, offices, employment, and salaries of all persons employed either in the inside or outside service thereof, and of such persons not in the Civil Service, employed by the Government in any department, on the tenth day of October, 1911, who have been removed from office or employment by dismissal; specifying in each case the manner of and grounds of such dismissals and the length of notice given to the persons removed, and also indicating in each case whether an inquiry was or was not held prior to such dismissal. Presented January 26, 1914.—*Mr. Kyte*.....*Not printed.*

**44** (3*n*). Supplementary Return to an Order of the House of the 3rd March, 1913, for a return showing in detail the number of dismissals from public offices and positions of employment by the present Government since the 11th day of October, 1911, to this date, in the County of Digby, Nova Scotia, in connection with any of the departments of the public service, but not including cases in which orders have already passed; togeaher with the names of the dismissed officials or employees, the reasons for their respective dismissals, the complaints or charges against them, and by whom made; together with a copy of all correspondence, letters, telegrams and other communications with respect to each such case of dismissal, and of all minutes of evidence of investigations, where any such were held, and of all reports relating to such dismissals now in the possession of any of the departments of the Government; also the names of all parties appointed to fill the vacancies caused by such dismissals, and the names of the persons by whom the same have been respectively recommended for appointment; together with a detailed statement of all accounts and expenses paid by any department in connection with the said dismissals and investigations or removals from office. Presented January 28, 1914. —*Mr. Sinclair* .....*Not printed.*

**44** (3*o*). Return to an Order of the House of the 26th May, 1913, for a copy of all correspondence, telegrams, inquiries and reports respecting the dismissal of Philias Hable, lightkeeper at St. Louis de Lotbinière, County of Lotbinière, Quebec. Presented February 4, 1914.—*Mr. Fortier*.....*Not printed.*

**44** (3*p*). Return to an Order of the House of the 19th May, 1913, for a copy of all correspondence, complaints, petitions and reports connected with the dismissal of Fishery Overseer Migneault at Seven Islands, and the appointment in his place of Elzear Levesque. Presented February 10, 1914.—*Mr. Béland*.....*Not printed.*

**44** (3*q*). Return to an Order of the House of the 28th April, 1913, for a return showing all employees dismissed in the County of Maskinonge, since October 15, 1911, to date, the date of dismissal, the employment of each man, the salary he was receiving at the time of his dismissal, the reasons for dismissal, whether there has been investigation or not, and the names and places of residence of the men appointed to replace them. Presented February 10, 1914.—*Mr. Bureau* .....*Not printed.*

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**44 (3r).** Partial Return to an Order of the House of the 3rd March, 1913, for a return showing in detail the number of dismissals from public offices and positions of employment by the present Government since the 11th day of October, 1911, to this date, in the County of King's, Province of Nova Scotia, in connection with any of the departments of the public service, not including cases in which orders have already passed; together with the names of the dismissed officials or employees, the reason for their respective dismissals, the complaints or charges against them, and by whom made; together with a copy of all correspondence, letters, telegrams and other communications with respect to each such case of dismissal, and of all minutes of evidence of investigations, where any such were held, and of all reports relating to such dismissals now in the possession of any of the departments of the Government, also the names of all parties appointed to fill the vacancies caused by such dismissals, and the names of the persons by whom the same have been respectively recommended for appointment; together with a detailed statement of all amounts and expenses paid, or to be paid, by any department in connection with the said dismissals and investigations or removals from office. Presented February 10, 1914.—*Mr. McKenzie*.....*Not printed.*

**44 (3s).** Return to an Order of the House of the 3rd March, 1913, for a return showing in detail the number of dismissals from public office and positions of employment by the present Government since the 11th day of October, 1911, to this date, in the County of Colchester, Nova Scotia, in connection with any of the departments of the public service; together with the names of the dismissed officials or employees, the reasons for their respective dismissals, the complaints or charges against them, and by whom made; together with a copy of all correspondence, letters, telegrams and other communications with respect to each such case of dismissal, and of minutes of evidence of investigations, where any such were held, and of all reports relating to such dismissals now in the possession of any of the departments of the Government; also the names of all parties appointed to fill the vacancies caused by such dismissals, and the names of the persons by whom the same have been respectively recommended for appointment; together with a detailed statement of all amounts and expenses paid by any department in connection with the said dismissals and investigations or removals from office. Presented February 10, 1914.—*Mr. Macdonald*.....*Not printed.*

**44 (3t).** Return to an Order of the House of the 3rd March, 1913, for a return showing in detail the number of dismissals from public offices and positions of employment by the present Government since the 11th day of October, 1911, to this date, in the County of Hants, Nova Scotia, in connection with any of the departments of the public service, not including cases in which orders have already passed; together with the name of the dismissed officials or employees, the reason for their respective dismissals, the complaints or charges against them, and by whom made; together with a copy of all correspondence, letters, telegrams and other communications with respect to each such case of dismissal, and of all minutes of evidence of investigations, where any such were held, and of all reports relating to such dismissals now in the possession of any of the departments of the Government; also of the names of all parties appointed to fill the vacancies caused by such dismissals, and the names of the persons by whom the same have been respectively recommended for appointment; together with a detailed statement of all amounts and expenses paid by any department in connection with the said dismissals and investigations or removals from office. Presented February 10, 1914.—*Mr. Chisholm (Inverness)*.....*Not printed.*

**44 (3u).** Return to an Order of the House of the 10th December, 1912, for a copy of all correspondence, documents, recommendations, and reports concerning the dismissal of Miss Eugenie Dorion, an employee in the office of the post office inspector at Quebec; the reasons for her dismissal, the nature of the complaints brought against her, if any, the names of the persons who brought these complaints, also a copy of all correspnodence relating thereto, and the report of inquriy, if there was one held. Presented February 20, 1914.—*Mr. Wilson (Laval)*.....*Not printed.*

**44 (3v).** Return to Order of the House of the 2nd February, 1914, for a copy of all charges, correspondence, letters, telegrams and other documents in the possession of the Post Office Department, relating to the dismissal of James R. Laing, postmaster at Liscombe, N.S., and of the facts taken, and report of investigation in regard to the same, if any, a detailed statement of the expenses of such investigation, together with a copy of all recommendations, letters, telegrams, and other papers relating to the appointment of his successor. Presented February 23, 1914.—*Mr. Sinclair*.....*Not printed.*

**44 (3w).** Return to an Order of the House of the 5th June, 1913, for a copy of all correspondence, papers, &c., in connection with the dismissal of Mr. A. L. Desève, officer in charge of the fishery hatchery at Magog, Quebec, and the appointment of Mr. L. A. Audet to the said position. Presented February 23, 1914.—*Sir W. Laurier*.....*Not printed.*

**44 (3x).** Return to an Order of the House of the 9th February, 1914, for a copy of all correspondence, telegrams and other documents relating to the removal of Jas. T. Richardson as sub-Collector of Customs at Humboldt, Saskatchewan, and the appointment of a successor. Presented February 23, 1914.—*Mr. Neely*.....*Not printed.*

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**44** (3*y*). Supplementary Return to an Order of the House of the 10th December, 1912, for a return showing the number of dismissals from public offices by the present Government to this date in the constituency of Regina, together with the names of the dismissed officials, the reasons for their dismissals, the complaints against such officials, and a copy of all correspondence with respect to the same, and of all reports of any investigations held in respect of the same. Presented February 24, 1914.—*Mr. Martin (Regina)* ..... *Not printed.*

**44** (3*z*). Return to an Order of the House of the 9th February, 1914, for a copy of all papers, documents, correspondence, &c., in connection with the dismissal of Mr. Hicks, of Bridgetown, N.S., from the customs service in 1913. Presented February 24, 1914.—*Mr. Maclean (Halifax)* ..... *Not printed.*

**44** (4*a*). Return to an Order of the House of the 16th February, 1914, for a copy of all letters, petitions, telegrams, complaints, evidence, reports and other papers and documents in the possession of the Customs Department, relating to the dismissal of Ralph Harris, sub-collector of customs at Pelee Island, Ont., and if there was an investigation, the names of all the witnesses, and a copy of the evidence; and also of all the papers connected with the appointment of his successor. Presented February 26, 1914.—*Mr. Clarke (Essex)* ..... *Not printed.*

**44** (4*b*). Return to an Order of the House of the 16th February, 1914, for a copy of all letters, petitions, telegrams, complaints, evidence, reports and other papers and documents in the possession of the Customs Department, relating to the dismissal of Aylmer Orton, customs officer at Windsor, Ont., and if there was an investigation, the names of all the witnesses, and a copy of the evidence; and also of all the papers connected with the appointment of his successor. Presented February 26, 1914.—*Mr. Clarke (Essex).* *Not printed.*

**44** (4*c*). Return to an Order of the House of the 16th February, 1914, for a copy of all letters, petitions, telegrams, complaints, evidence, reports and other papers and documents in the possession of the Customs Department, relating to the dismissal of Frederick Forster, sub-collector of customs at Kingsville, Ont., and if there was an investigation, the names of all the witnesses, and a copy of the evidence; and also of all the papers connected with the appointment of his successor. Presented February 26, 1914.—*Mr. Clarke (Essex)* ..... *Not printed.*

**44** (4*d*). Return to an Order of the House of the 16th February, 1914, for a copy of all letters, petitions, telegrams, complaints, evidence, reports and other papers and documents in the possession of the Interior Department, relating to the dismissal of Andrew Darragh, immigration officer at Windsor, Ont., and if there was an investigation, the names of all the witnesses, and a copy of the evidence; and also of all the papers connected with the appointment of his successor. Presented March 2, 1914.—*Mr. Clarke (Essex).* *Not printed.*

**44** (4*e*). Return to an Order of the House of the 16th February, 1914, for a copy of all letters, petitions, telegrams, complaints, evidence, reports and other papers and documents in the possession of the Interior Department, relating to the dismissal of John Halstead, immigration officer at Windsor, Ont., and if there was an investigation, the names of all the witnesses, and a copy of the evidence; and also of all the papers connected with the appointment of his successor. Presented March 2, 1914.—*Mr. Clarke (Essex).* *Not printed.*

**44** (4*f*). Return to an Order of the House of the 26th May, 1913, for a copy of all correspondence, telegrams, inquiries, and reports, respecting the dismissal of Napoleon Daigle, lighthouse keeper at Barre à Boulard, Parish of St. Louis de Lotbinière, Quebec. Presented March 2, 1914.—*Mr. Fortier* ..... *Not printed.*

**44** (4*g*). Supplementary Return to an Order of the House of the 19th March, 1913, for a return showing in detail the number of dismissals from the public service during the period from June 23, 1896, to September 21, 1911, in the County of Cumberland, Nova Scotia, in connection with any department of the public service; together with the names of the dismissed officials or employees, their ages at the time of entering the public service, the length of their period of service with dates, the amount of their remuneration, the reason for their respective dismissals, the complaints or charges against them, and by whom made; together with a copy of all correspondence, letters, telegrams and other communications with respect to each such case of dismissals, and of all minutes of evidence on investigation, where any such were held, and of all reports relating to such dismissals now in the possession of any of the departments of the government; also the names of all persons appointed to fill vacancies caused by such dismissals, their ages at the date of appointment, the amount of their remuneration, and the names of the persons by whom the same have been respectively recommended for appointment; together with a detailed statement of all amounts and expenses paid by any department in connection with said dismissals and investigations or removal from office. Presented March 2, 1914.—*Mr. Rhodes* ..... *Not printed.*

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**44** (4*h*). Return to an Order of the House of the 16th February, 1914, for a copy of all letters, petitions, telegrams, complaints, evidence, reports and other papers and documents in the possession of the Department of the Postmaster General, relating to the dismissal of James H. Smart, postmaster at Kingsville, Ont., and if there was an investigation, the names of all the witnesses and a copy of the evidence; and also of all the papers connected with the appointment of his successor. Presented March 2, 1914.—*Mr. Clarke (Essex)* .....*Not printed.*

**44** (4*i*). Return to an Order of the House of the 11th February, 1914, for a copy of all papers, letters and documents of every kind relating to the dismissal of John A. Roy from the position of postmaster at Maitland, County of Hants. Presented March 2, 1914.—*Mr. Macdonald* .....*Not printed.*

**44** (4*j*). Return to an Order of the House of the 11th February, 1914, for a copy of all papers, letters and documents of every kind relating to the dismissal of Thomas Nelson, from the position of postmaster at Scotch Village, County of Hants. Presented March 2, 1914.—*Mr. Macdonald* .....*Not printed.*

**44** (4*k*). Return to an Order of the House of the 11th February, 1914, for a copy of all papers, letters and documents of every kind relating to the dismissal of Albert McHeffey from the position of postmaster at Shubenacadie, County of Hants. Presented March 2, 1914. —*Mr. Macdonald* .....*Not printed.*

**44** (4*l*). Return to an Order of the House of the 11th February, 1914, for a copy of all papers, letters and documents of every kind relating to the dismissal of C. Stewart McPhee from the position of postmaster at Enfield, County of Hants. Presented March 2, 1914.— *Mr. Macdonald* .....*Not printed.*

**44** (4*m*). Return to an Order of the House of the 2nd February, 1914, for a return showing in detail the number of dismissals from public offices and positions of employment by the present Government since the first day of February, 1913, to date, in the County of Westmorland, New Brunswick, in connection with any of the departments of the public service, except the Post Office Department; together with the names of the dismissed officials or employees, the reasons for their respective dismissal, the complaints or charges against them, and by whom made; together with a copy of all correspondence, letters, telegrams and other communications with respect to each such case of dismissal, and of all minutes of evidence of investigations, where any such were held, and of all reports relating to such dismissals now in the possession of any of the departments of the government, or of the Government Railway Managing Board, or of the officials of the Intercolonial and the Prince Edward Island Railways; also the names of all parties appointed to fill the vacancies caused by such dismissals, and the names of the persons by whom the same have been respectively recommended for appointment; together with a detailed statement of all amounts and expenses paid by any department in connection with the said dismissals and investigations or removals from office. Presented March 3, 1914.—*Mr. Emmerson* .....*Not printed.*

**44** (4*n*). Return to an Order of the House of the 15th January, 1913, for a copy of all letters, documents, telegrams, reports, correspondence and recommendations in any way relating to the dismissal of D. Dishaw, employee of the Marine shipyard at Prescott, Ontario. Presented March 3, 1914.—*Mr. Turriff*.....*Not printed.*

**44** (4*o*). Return to an Order of the House of the 11th February, 1914, for a copy of all papers, letters and documents of every kind relative to the dismissal of A. Michael Russell from the position of caretaker of the drill hall at Windsor, County of Hants. Presented March 3, 1914.—*Mr. Maclean (Halifax)*.....*Not printed.*

**44** (4*p*). Return to an Order of the House of the 2nd February, 1914, for a copy of all charges, correspondence, letters, telegrams and other documents relating to the dismissal of Mr. A. Goyette, postmaster at St. Valerien de Milton, Shefford County, Quebec, and of the evidence taken, and of the reports of investigation held by Dr. W. L. Shurtleff in regard to the same. Presented March 5, 1914.—*Mr. Boivin*.....*Not printed.*

**44** (4*q*). Return to an Order of the House of the 21st April, 1913, for a copy of the evidence and report in the investigation held by Mr. W. A. E. Flynn, in the case of P. D. Bourdages, keeper of the lighthouse at Bonaventure Point, Quebec, of the charges made against the said Bourdages by Ovide Bourdages, Raymond Bourdages, Pierre Henry, J. A. Mousseau and D. Champoux. Presented March 5, 1914.—*Mr. Marcil (Bonaventure)* .....*Not printed.*

**44** (4*r*). Return to an Order of the House of the 21st April, 1913, for a copy of the charges made by Messrs. W. S. Montgomery, J. I. Boudreau, N. Bourg, J. A. Mousseau, N. Boudreau, against Louis Bujold, keeper of the lighthouse at Carleton Point, Quebec. Presented March 5, 1914.—*Mr. Marcil (Bonaventure)*.....*Not printed.*

**44** (4*s*). Return to an Order of the House of the 11th February, 1914, for a return showing reasons for the dismissal of Mr. Shinbine, caretaker of the Immigration Hall at Edmonton, the date of his appointment and of dismissal, and salary at time of dismissal; also the name of caretaker appointed in his place, with date of appointment, salary and qualifications. Presented March 6, 1914.—*Mr. Oliver*.....*Not printed.*

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**44** (4*t*). Return to an Order of the House of the 11th February, 1914, for a return showing the reasons for the dismissal of Mr. Webster, immigration agent at Edmonton; the date of his appointment and of dismissal, and salary at time of dismissal; also the name of the agent appointed in his place, with date of appointment, salary and qualifications? Presented March 6, 1914.—*Mr. Oliver*.....*Not printed.*

**44** (4*u*). Return to an Order of the House of the 11th February, 1914, for a return showing reasons for the dismissal of Jacob Mohr, interpreter for the immigration agency at Edmonton; the date of his appointment and of dismissal, and salary at time of dismissal; also the name of the interpreter appointed in his place with date of appointment, salary and qualifications. Presented March 6, 1914.—*Mr. Oliver*.....*Not printed.*

**44** (4*v*). Return to an Order of the House of the 11th February, 1914, for a return showing reasons for the dismissal of Mr. P. Tomkins, Dominion Lands Agent at Grouard, the date of his appointment and of dismissal, and salary at time of dismissal; also the name of agent appointed in his place, with date of appointment and salary. Presented March 6, 1914.—*Mr. Oliver*.....*Not printed.*

**44** (4*w*). Return to an Order of the House of the 2nd February, 1914, for a copy of all documents bearing upon dismissals and appointments of officials of the Inland Revenue Department in Bonaventure County since January 1, 1913, to date; together with a statement showing the salaries, emoluments and amounts paid to the new appointees since appointment, compared with amounts paid officials for corresponding periods in 1911 and 1912. Presented March 6, 1914.—*Mr. Marcil (Bonaventure)*....*Not printed.*

**44** (4*x*). Return to an Order of the House of the 2nd February, 1914, for a copy of all charges, correspondence, letters, telegrams and other documents relating to the dismissal of Mr. Arthur Dupuis, postmaster at Pontbriand, County of Megantic, Quebec, and of the evidence taken and of the reports of investigation held by Dr. W. L. Shurtleff in regard to the same. Presented March 6, 1914...*Mr. Pacaud*.....*Not printed.*

**44** (4*y*). Return to an Order of the House of the 2nd February, 1914, for a copy of all correspondence, letters, telegrams, petitions and other documents relating to the dismissal of Jos. Serguis Archambault, as postmaster of the town of Terrebonne, and to the appointment of George Beausoldeil, as his successor. Presented March 6, 1914.
*Mr. Seguin* .....*Not printed.*

**44** (4*z*). Return to an Order of the House of the 2nd February, 1914, for a copy of all correspondence, letters, telegrams, reports and all other papers relating to the dismissal of Martin Lanigan, postmaster at Sexton, County of Kent, New Brunswick, and of the minutes of evidence of any investigation or inquiry held relating to the said dismissal, and of all and any charges and recommendations connected therewith; also a copy of all letters written to the Postmaster General or to any official of the Post Office Department, by F. J. Robidoux, M.P., or by any other person relating to the said dismissal. Presented March 6, 1914.—*Mr. Emmerson*.....*Not printed.*

**44** (5*a*). Return to an Order of the House of the 2nd February, 1914, for a copy of all documents, letters, correspondence and petitions asking for the dismissal of Mr. Felix Raymond, postmaster at Ste. Scholastique Village, County of Two Mountains, together with everything in connection with such dismissal. Presented March 6, 1914.—*Mr. Ethier.*
*Not printed.*

**44** (5*b*). Return to an Order of the House of the 16th February, 1914, for a copy of all papers in connection with the sub-lands agency in Gravelburg, Saskatchewan. Presented March 10, 1914.—*Mr. Knowles*.....*Not printed.*

**44** (5*c*). Further Supplementary Return to an Order of the House of the 3rd March, 1913, for a return showing in detail the number of dismissals from public offices and positions of employment by the present Government since the 11th of October, 1911, to this date, in the County of King's, Province of Nova Scotia, in connection with any of the departments of the public service, not including cases in which orders have already passed; together with the names of the dismissed officials or employees, the reason for their respective dismissals, the complaints or charges against them, and by whom made; together with a copy of all correspondence, letters, telegrams and other communications with respect to each such case of dismissal, and of all minutes of evidence of investigations, where any such were held, and of all reports relating to such dismissals now in the possession of any of the departments of the Government, also the names of all parties appointed to fill the vacancies caused by such dismissals, and the names of the persons by whom the same have been respectively recommended for appointment; together with a detailed statement of all amounts and expenses paid, or to be paid, by any department in connection with the said dismissals and investigations or removals from office. Presented March 10, 1914.—*Mr. McKenzie*.....*Not printed.*

**44** (5*d*). Return to an Order of the House of the 11th February, 1914, for a copy of all papers, telegrams, correspondence and petitions in any way referring to the dismissal of the postmaster at Ainslie Glen, Inverness County, and the appointment of Neil McKinnon to said office. Presented March 12, 1914.—*Mr. Chisholm (Inverness).*
*Not printed.*

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**44 (5e)**. Return to an Order of the House of the 9th February, 1914, for a copy of all papers, documents, correspondence, letters, &c., since October 1, 1911, relating to the appointment of a postmaster at Upper Ohio, Shelburne County, N.S. Presented March 12, 1914.—*Mr. Maclean (Halifax)*.....*Not printed.*

**44 (5f)**. Return to an Order of the House of the 9th February, 1914, for a copy of all papers, documents, correspondence, letters and telegrams, relating to the dismissal of Jos. H. Lefebvre, postmaster at Howick Station, County of Chateauguay, and the appointment of his successor. Presented March 12, 1914.—*Mr. Robb*.....*Not printed*

**44 (5g)**. Return to an Order of the House of the 11th February, 1914, for a copy of all correspondence, letters, telegrams, petitions and other documents in any way connected with the dismissal of the postmaster at Alexander, Inverness County, and the appointment of a successor. Presented March 12, 1914.—*Mr. Chisholm (Inverness)*.
*Not printed.*

**44 (5h)**. Return to an Order of the House of the 2nd February, 1914, for a copy of all correspondence, letters, telegrams and documents of all kinds in possession of the Government or any department thereof, in any way relating to the employment of and dismissal from the Geological Survey of Canada of N. H. McLeod, North East Margaree, Inverness County, N.S. Presented March 12, 1914.—*Mr. Chisholm (Inverness)*.
*Not printed.*

**44 (5i)**. Return to an Order of the House of the 15th January, 1913, for a copy of all letters, documents, telegrams, reports, correspondence and recommendations in any way relating to the dismissal of M. Barry, from the service of the Marine Department at Prescott, Ontario. Presented March 17, 1914.—*Mr. Lemieux*.....*Not printed.*

**44 (5j)**. Return to an Order of the House of the 15th January, 1913, for a copy of all letters, documents, telegrams, reports, correspondence and recommendations in any way relating to the dismissal of W. Granton, from the service of the Marine Department at Prescott, Ontario. Presented March 17, 1914.—*Mr. Thomson (Qu'Appelle)*.
*Not printed.*

**44 (5k)**. Return to an Order of the House of the 9th February, 1914, for a copy of all letters, and telegrams in connection with the dismissal of the postmaster at Fletwode, Saskatchewan, and the changing of the location of the said post office. Presented March 17, 1914.—*Mr. Turriff*.....*Not printed.*

**44 (5l)**. Return to an Order of the House of the 2nd February, 1914, for a return showing in detail the number of dismissals or removals from office from 1st February, 1913, of postmasters in the County of Westmorland, New Brunswick; together with the names of the dismissed postmasters, or postmistresses, the reason of their dismissal, and a copy of the charges or complaints against such officials respectively, and of all correspondence with respect to the same; and of all correspondence, recommendations, petitions, protests and other documents, and of all notes of evidence and of the reports of investigations, where such were held, relating thereto, or to the appointment of successors to fill such offices respectively; and also the names of all persons appointed to fill the vacancies caused by such dismissals, and of the persons by whom the same respectively were recommended for appointment. Presented March 17, 1914.—*Mr. Emmerson.*
*Not printed.*

**44 (5m)**. Return to an Order of the House of the 16th February, 1914, for a return showing the name of the postmaster of the Parish of St. Henri de Lauzon, County of Lévis, who, it is said, was dismissed from office since September, 1911, the reasons for such dismissal, the nature of the complaints made against him, the names of the parties who made those complaints, together with a copy of all correspondence and telegrams relating thereto, the name of the inquiring commissioner, and report of investigation, if any, and of all evidence taken at the investigation, the names of those who recommended the successor, names of the parties by whom the Government was represented at such investigation, with a detailed statement of all the accounts paid or to be paid by any department in connection with the aforesaid dismissal and investigation, the names of the parties who received any money or filed their accounts in connection with said investigation, and the amount awarded to or claimed by each of them. Presented March 17, 1914.—*Mr. Bourassa*.....*Not printed.*

**44 (5n)**. Return to an Order of the House of the 23rd February, 1914, for a copy of all letters, petitions, telegrams, evidence, reports, papers and documents, in the possession of the Post Office Department, or any other department, relating to the dismissal of Geo. Skates, postmaster at Appin, Ontario; and if there was an investigation, the name of the investigator and witnesses, a copy of the evidence and of letters, papers, petitions, recommendations and other documents connected with the appointment of Mr. Skates' successor. Presented March 17, 1914.—*Mr. Ross*.....*Not printed.*

**44 (5o)**. Return to an Order of the House of the 9th March, 1914, for a copy of all charges, correspondence, letters, telegrams and other documents relating to the dismissal of Geo. J. Ryan and Charles Hamlin from the Canadian customs service at Newport, Vermont, and of the appointment of Charles A. Boright and Frank S. Baker to the said positions. Presented March 20, 1914.—*Mr. Boivin*.....*Not printed.*

## CONTENTS OF VOLUME 28—*Continued.*

**44** (5*p*). Return to an Order of the House of the 15th January, 1913, for a copy of all letters, documents, telegrams, reports, correspondence, and recommendations, in any way relating to the dismissal of J. Shaver, employee of the Marine shipyard at Prescott, Ontario. Presented March 20, 1914.—*Mr. Law*.....*Not printed.*

**44** (5*q*). Return to an Order of the House of the 15th January, 1913, for a copy of all letters, documents, telegrams, reports, correspondence, and recommendations in any way relating to the dismissal of R. Lunay, employee of the Marine shipyard at Prescott, Ontario. Presented March 20, 1914.—*Mr. Carroll*.....*Not printed.*

**44** (5*r*). Return to an Order of the House of the 15th January, 1913, for a copy of all letters, documents, telegrams, reports, correspondence, and recommendations in any way relating to the dismissal of J. Slattery, employee of the Marine shipyard at Prescott, Ontario. Presented March 20, 1914.—*Mr. Béland*.....*Not printed.*

**44** (5*s*). Return to an Order of the House of the 15th January, 1913, for a copy of all letters, documents, telegrams, reports, correspondence, and recommendations in any way relating to the dismissal of J. Walsh, employee of the Marine shipyard at Prescott, Ontario. Presented March 20, 1914.—*Mr. Chisholm (Inverness)*.....*Not printed.*

**44** (5*t*). Return to an Order of the House of the 15th January, 1913, for a copy of all letters, documents, telegrams, reports, correspondence, and recommendations in any way relating to the dismissal of W. Gerts, employee of the Marine shipyard at Prescott, Ontario. Presented March 20, 1914.—*Mr. Wilson (Laval)*.....*Not printed.*

**44** (5*u*). Return to an Order of the House of the 15th January, 1913, for a copy of all letters, documents, telegrams, reports, correspondence, and recommendations in any way relating to the dismissal of D. Boivard, employee of the Marine shipyard at Prescott, Ontario. Presented March 20, 1914.—*Mr. Kyte*.....*Not printed.*

**44** (5*v*). Return to an Order of the House of the 15th January, 1913, for a copy of all letters, documents, telegrams, reports, correspondence, and recommendations in any way relating to the dismissal of G. Scott, employee of the Marine shipyard at Prescott, Ontario. Presented March 20, 1914.—*Mr. Nesbitt*.....*Not printed.*

**44** (5*w*). Return to an Order of the House of the 15th January, 1913, for a copy of all letters, documents, telegrams, reports, correspondence, and recommendations in any way relating to the dismissal of J. Offspring, employee of the Marine shipyard at Prescott Ontario. Presented March 20, 1914.—*Mr. Warnock*.....*Not printed.*

**44** (5*x*). Return to an Order of the House of the 15th January, 1913, for a copy of all letters, documents, telegrams, reports, correspondence, and recommendations in any way relating to the dismissal of J. Hayes, employee of the Marine shipyard at Prescott, Ontario. Presented March 20, 1914.—*Mr. Turriff*.....*Not printed.*

**44** (5*y*). Return to an Order of the House of the 15th January, 1913, for a copy of all letters, documents, telegrams, reports, correspondence, and recommendations in any way relating to the dismissal of P. Belanger, from the service of the Marine Department at Prescott, Ontario. Presented March 20, 1914.—*Mr. Proulx*.....*Not printed.*

**44** (5*z*). Return to an Order of the House of the 15th January, 1913, for a copy of all letters, documents, telegrams, reports, correspondence, and recommendations in any way relating to the dismissal of L. Place, employee of the Marine shipyard at Prescott, Ontario. Presented March 20, 1914.—*Mr. Pacaud*.....*Not printed.*

**44** (6*a*). Return to an Order of the House of the 15th January, 1913, for a copy of all letters, documents, telegrams, reports, correspondence, and recommendations in any way relating to the dismissal of C. Kavanagh, employee of the Marine shipyard at Prescott, Ontario. Presented March 20, 1914.—*Mr. Carvell*.....*Not printed.*

**44** (6*b*). Return to an Order of the House of the 15th January, 1913, for a copy of all letters, documents, telegrams, reports, correspondence, and recommendations in any way relating to the dismissal of J. Roche, employee of the Marine shipyard at Prescott, Ontario. Presented March 20, 1914.—*Mr. Sinclair*.....*Not printed.*

**44** (6*c*). Return to an Order of the House of the 15th January, 1913, for a copy of all letters, documents, telegrams, reports, correspondence, and recommendations in any way relating to the dismissal of J. McInnis, employee of the Marine shipyard at Prescott, Ontario. Presented March 20, 1914.—*Mr. McCoig*.....*Not printed.*

**44** (6*d*). Return to an Order of the House of the 15th January, 1913, for a copy of all letters, documents, telegrams, reports, correspondence, and recommendations in any way relating to the dismissal of E. Scott, employee of the Marine shipyard at Prescott, Ontario. Presented March 29, 1914.—*Mr. Demers*.....*Not printed.*

**44** (6*e*). Return to an Order of the House of the 15th January, 1913, for a copy of all letters, documents, telegrams, reports, correspondence, and recommendations in any way relating to the dismissal of C. Wright, employee of the Marine shipyard at Prescott, Ontario. Presented March 20, 1914.—*Mr. Clark (Red Deer)*.....*Not printed.*

**44** (6*f*). Return to an Order of the House of the 15th January, 1913, for a copy of all letters, documents, telegrams, reports, correspondence, and recommendations in any way relating to the dismissal of L. Lalonde, employee of the Marine shipyard at Prescott, Ontario. Presented March 20, 1914.—*Mr. Bureau*.....*Not printed.*

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**44** (6*g*). Return to an Order of the House of the 15th January, 1913, for a copy of all letters, documents, telegrams, reports, correspondence, and recommendations in any way relating to the dismissal of H. Birks, employee of the Marine shipyard at Prescott, Ontario. Presented March 20, 1914.—*Mr. Charlton*.....*Not printed.*

**44** (6*h*). Return to an Order of the House of the 15th January, 1913, for a copy of all letters, documents, telegrams, reports, correspondence, and recommendations in any way relating to the dismissal of W. Jarvis, employee of the Marine shipyard at Prescott, Ontario. Presented March 20, 1914.—*Mr. Gauvreau*.....*Not printed.*

**44** (6*i*). Return to an Order of the House of the 15th January, 1913, for a copy of all letters, documents, telegrams, reports, correspondence, and recommendations in any way relating to the dismissal of J. McDermott, employee of the Marine shipyard at Prescott, Ontario. Presented March 23, 1914.—*Mr. Devlin*.....*Not printed.*

**44** (6*j*). Return to an Order of the House of the 27th January, 1913, for a copy of all letters, documents, telegrams, reports, correspondence, and recommendations in any way relating to the dismissal of George L. Brown, officer in charge of the Dominion lighthouse, Prescott Depot, Ontario, and the appointment of his successor. Presented March 23, 1914.—*Mr. Proulx*..... *Not printed.*

**44** (6*k*). Return to an Order of the House of the 15th January, 1913, for a copy of all letters, documents, telegrams, reports, correspondence, and recommendations in any way relating to the dismissal of J. Lane, employee of the Marine shipyard at Prescott, Ontario. Presented March 23, 1914.—*Mr. MacNutt*.....*Not printed.*

**44** (6*l*). Return to an Order of the House of the 15th January, 1913, for a copy of all letters, documents, telegrams, reports, correspondence, and recommendations in any way relating to the dismissal of D. Perrin, employee of the Marine shipyard at Prescott, Ontario. Presented March 23, 1914.—*Mr. Lemieux*.....*Not printed.*

**44** (6*m*). Return to an Order of the House of the 15th January, 1913, for a copy of all letters, documents, telegrams, reports, correspondence, and recommendations in any way relating to the dismissal of J. A. Mundle, employee of the Marine shipyard at Prescott, Ontario. Presented March 23, 1914.—*Mr. Maclean (Halifax)*.....*Not printed.*

**44** (6*n*). Return to an Order of the House of the 16th February, 1914, for a return showing the name of the postmaster of the Parish of St. Lambert, County of Lévis, who, it is stated, was dismissed from office since September, 1911, the reasons for such dismissal, the nature of the complaints made against him, the names of the parties who made those complaints, together with a copy of all correspondence and telegrams relating thereto, the name of the inquiring commissioner, and report of investigation, if any, and of all evidence taken at the investigation, the names of those who recommended the successor, names of the parties by whom the Government was represented at such investigation, with a detailed statement of all the accounts paid or to be paid by any department in connection with the aforesaid dismissal and investigation, the names of the parties who received any money or filed their accounts in connection with said investigation, and the amount awarded to or claimed by each of them. Presented March 23, 1914.—*Mr. Bourassa*.....*Not printed.*

**44** (6*o*). Return to an Order of the House of the 2nd February, 1914, for a return showing the changes in postmasterships in Bonaventure County from January 1, 1913, to date, with a list of dismissals, and reasons therefor, and of new appointments, also a copy of all reports, correspondence, petitions and documents generally bearing on this subject; together with a list of post office contracts cancelled in said constituency, with reasons therefor, if any, and of new contracts awarded, with the old rate and the new, and whether tenders were called for, in each case, and whether contracts were awarded to lowest tenderer or not. Presented March 23, 1914.—*Mr. Marcil (Bonaventure)*. *Not printed.*

**44** (6*p*). Return to an Order of the House of the 2nd February, 1914, for a return of all reports, memorials, correspondence and documents generally, bearing on the dismissal of customs officials in Bonaventure county from January 1, 1913, to date, together with a statement of salaries paid to old and new officials, and a copy of recommendations on which new officials were appointed, if any. Presented March 25, 1914.—*Mr. Marcil (Bonaventure)* .....*Not printed.*

**44** (6*q*). Return to an Order of the House of the 2nd February, 1914, for a return showing in detail the number of dismissals from office since October 1, 1911, not already brought down, of postmasters in the County of Albert, New Brunswick, together with the names of the dismissed postmasters, the reason of their dismissal, and a copy of the charges or complaints against such officials respectively, also a copy of all correspondence, recommendations, petitions, protests and other documents, and of all notes of evidence and of the reports of investigations, where such were held with respect to the same or relating thereto, or to the appointment of successors to fill such offices respectively. And also the names of all persons appointed to fill the vacancies caused by such dismissals, and the names of the persons by whom the same were respectively recommended for appointment. Presented March 25, 1914.—*Mr. Emmerson*.....*Not printed.*

## CONTENTS OF VOLUME 28—*Continued.*

**44 (6r)**. Supplementary Return to an Order of the House of the 3rd March, 1913, for a return showing in detail the number of dismissals from public offices and positions of employment by the present Government since the 11th day of October, 1911, to this date, in the constituency of Queen's, Shelburne, Nova Scotia, in connection with any of the departments of the public service, not including cases in which orders have already been passed; together with the names of the dismissed officials or employees, the reason for their respective dismissals, the complaints or charges against them, and by whom made; together with a copy of all correspondence, letters, telegrams and other communications with respect to each such case of dismissal, and of all minutes of evidence of investigations, where any such were held and of all reports relating to such dismissals now in the possession of any of the departments of the Government, also the names of all parties appointed to fill the vacancies caused by such dismissals, and the names of the persons by whom the same may have been respectively recommended for appointment; together with a detailed statement of all amounts and expenses paid by any department in connection with the said dismissals and investigations or removals from office. Presented March 26, 1914.—*Mr. Law*.....*Not printed.*

**44 (6s)**. Supplementary Return to an Order of the House of the 10th December, 1912, for a return showing all the public officers dismissed by the present Government in the electoral district of Kamouraska, with the names and duties of such persons respectively, the reason for their dismissal, the nature of the complaints brought against them, also of all correspondence relating thereto and reports of inquiries in cases where such have been held. Presented March 26, 1914.—*Mr. Lapointe (Kamouraska)*.....*Not printed.*

**44 (6t)**. Return to an Order of the House of the 16th February, 1914, for a return showing the name of the postmaster of the Parish of Notre Dame de Charny, County of Lévis, who, it is stated, was dismissed from office since September, 1911, the reasons for such dismissal, the nature of the complaints made against him, the names of the parties who made those complaints, together with a copy of all correspondence and telegrams relating thereto, the name of the inquiring commissioner, and report of investigation, if any, and of all evidence taken at the investigation, the names of those who recommended the successor, names of the parties by whom the Government was represented at such investigation, with a detailed statement of all the accounts paid or to be paid by any department in connection with the aforesaid dismissal and investigation, the names of the parties who received any money or filed their accounts in connection with said investigation, and the amount awarded to or claimed by each of them. Presented March 31, 1914.—*Mr. Bourassa*.....*Not printed.*

**44 (6u)**. Return to an Order of the House of the 16th March, 1914, for a copy of all telegrams, letters and correspondence in connection with the dismissal of Charles S. Melanson, postmaster of Corberrie, Digby County, N.S. Presented April 1, 1914.—*Mr. Law*. *Not printed.*

**44 (6v)**. Return to an Order of the House of the 11th February, 1914, for a return showing reasons for the dismissal of Gordon McDonald, homestead inspector in the Grouard Land Agency, the date of his appointment and of dismissal, and salary at time of dismissal; also the names of inspector appointed in his place, with date of appointment and salary. Presented April 2, 1914.—*Mr. Oliver*.....*Not printed.*

**44 (6w)**. Return to an Address to His Royal Highness the Governor General of the 17th February, 1913, for a copy of all letters, papers and documents relating to the appointment of W. F. Slack as clerk of works in the Department of Public Works at Ottawa; a copy of the charges against the said W. F. Slack, which were investigated by Honourable F. D. Monk, and of all the letters suspending and re-instating the said W. F. Slack; of the employees memorial, dated May 11, 1912, and addressed to Honourable F. D. Monk; praying for the retention in office of the said W. F. Slack; a copy of the charges investigated by Commissioner R. V. Sinclair, of the evidence taken and the reports made by the said commissioner; and also of all correspondence, requests, recommendations and orders in council relating to the dismissal of the said W. F. Slack. Presented April 2, 1914.—*Mr. Murphy*.....*Not printed.*

**44 (6x)**. Return to an Order of the House of the 28th April, 1913, for a copy of all correspondence, memoranda, reports, telegrams, and of all documents whatsoever, in connection with and having relation to the dismissal of William Brunelle, lighthouse keeper at Pointe à Citrouille, County of Champlain, Province of Quebec. Presented April 2, 1914.—*Mr. Bureau*.....*Not printed.*

**44 (6y)**. Return to an Order of the House of the 23rd March, 1914, for a copy of all documents, correspondence, petitions, recommendations, &c., in connection with the dismissal of Arthur Levesque, light keeper at Grosse Isle, Kamouraska, and with the appointment of his successor? Presented April 7, 1914.—*Mr. Lapointe (Kamouraska)*..*Not printed.*

**44 (6z)**. Return to an Order of the House of the 28th April, 1913, for a copy of all correspondence, memoranda, reports, telegrams and all other documents whatsoever having reference to the dismissal of L. Philippe Carignan, lighthouse keeper at Champlain, County of Champlain. Presented April 2, 1914.—*Mr. Bureau*.....*Not printed.*

## CONTENTS OF VOLUME 28—*Continued.*

**44 (7*a*).** Return to an Order oft he House of the 23rd March, 1914, for a copy of all documents, petitions, correspondence, recommendations, investigations, &c., in connection with the dismissal of Dominique Levesque, lightkeeper at Rivière Ouelle wharf, County of Kamouraska, and with the appointment of his successor. Presented April 7, 1914.—*Mr. Lapointe (Kamouraska)*.....*Not printed.*

**44 (7*b*).** Return to an Order of the House of the 2nd February, 1914 ,for a return showing in detail the number of dismissals from public offices by the present Government in the electoral district of Shefford from the 1st of October, 1911, not already brought down to the present date; together with the names of the dismissed officers, the reasons for their dismissal, the complaints against such officials, names of the complainants in each case, and the names of their successors in office. Presented April 16, 1914.—*Mr. Boivin.* *Not printed.*

**44 (7*c*).** Supplementary Return to an Order of the House of the 10th December, 1912, for a return showing all public officers removed by the present Government in the District of Portneuf, together with the names and duties of each person, the reasons for their dismissal, the nature of the complaints brought against them, also a copy of all correspondence relating thereto and reports of inquiries in cases where such were held. Presented April 16, 1914.—*Mr. Delisle*.....*Not printed.*

**44 (7*d*).** Return to an Order of the House of the 4th February, 1914, for a copy of all correspondence relative to the dismissal of Alex. W. Finlayson, keeper of light on St. Esprit Island, Richmond County, N.S., and to his resignation and the appointment of a successor. Presented April 17, 1914.—*Mr. Kyte*.....*Not printed.*

**44 (7*e*).** Return to an Order of the House of the 4th March, 1914, for a copy of all papers, evidence, &c., in connection with the investigation held by the Department of Marine and Fisheries against the light keeper of Cape Cove, County of Gaspé, in 1911. Presented April 17, 1914.—*Mr. Lemieux*.....*Not printed.*

**44 (7*f*).** Return to an Order of the House of the 16th February, 1914, for a copy of all telegrams, correspondence and documents of all kinds in any way relating to the dismissal or suspension from duty of Dan Cormier, an officer in the life-saving station at Eastern Harbour, Inverness County, Nova Scotia. Presented April 21, 1914.—*Mr. Chisholm (Inverness)* ..... *Not printed.*

**44 (7*g*).** Return to Order of the House of the 16th February, 1914, for a copy of all documents bearing on the appointment and dismissal of Ben. V. Willett, as light keeper at Point Duthie, Quebec, and of the appointment of James Doddridge as his successor, as well as of those bearing on the contemplated removal of that light to Maria wharf. Presented April 21, 1914.—*Mr. Marcil (Bonaventure)*.....*Not printed.*

**44 (7*h*).** Return to an Order of the House of the 12th February, 1914, for a return showing the names of the postmasters who have been dismissed in the County of Lévis since the month of September, 1911; the number of the dismissed postmasters, since the month of September, 1911, who have been appointed in the place of postmasters dismissed under the late administration; and the names of the postmasters who were dismissed under the late administration. Presented April 22, 1914.—*Mr. Bourassa*..*Not printed.*

**44 (7*i*).** Return to an Order of the House of the 2nd March, 1914, for a copy of all correspondence, papers, documents, evidence, reports, telegrams, &c., relating to the dismissal of John A. L. McLellan, late Light keeper at Fish Island, Prince Edward Island. Presented April 28, 1914.—*Mr. Hughes (Kings, P.E.I.)*..... *Not printed.*

**44 (7*j*).** Return to an Order of the House of the 6th April, 1914, for a copy of all documents bearing on the dismissal of Thomas Le Blanc, as postmaster of Allard, Bonaventure County, and the appointment of his successor. Presented April 30, 1914.—*Mr. Marcil (Bonaventure)* ..... *Not printed.*

**44 (7*k*).** Return to an Order of the House of the 21st April, 1913, for a copy of all letters, telegrams, petitions, complaints, evidence, reports and other documents relating to the dismissal of William E. Ehler, Lightkeeper, Queensport, N.S., also a detailed statement of the expenses connected with the investigation, distinguishing the allowance paid the commissioner from travelling expenses and witness fees; and of all papers connected with the appointment of Mr. Ehler's successor. Presented May 5, 1914.—*Mr. Sinclair.* *Not printed.*

**44 (7*l*).** Return to an Order of the House of the 2nd March, 1914, for a copy of all letters, petitions, telegrams, evidence, reports, papers and documents in the possession of the Post Office Department, or any other Department, relating to the dismissal of Samuel Dickson, postmaster at Seaforth, Ontario, and if there was an investigation, the names of the investigator and witnesses, with a copy of the evidence and of all letters, papers, petitions, recommendations, or other documents connected with the appointment of Mr. Dickson's successor. Presented May 8, 1914.—*Mr. Ross*.....*Not printed.*

## CONTENTS OF VOLUME 28—*Continued.*

**44** (7*m*). Return to an Order of the House of the 6th April, 1914, for a copy of all petitions, letters, complaints and other documents relating to the dismissal of Charles McPherson, postmaster at North Riverside, County of Guysborough, N.S., and of all recommendations and correspondence relating to the appointment of his successor; also a copy of all evidence and of the report of the investigation, if any, and a statement of the expenses of said investigation. Presented May 8, 1914.—*Mr. Sinclair*.....*Not printed.*

**44** (7*n*). Return to an Order of the House of the 9th March, 1914, for a copy of all letters, telegrams, petitions, notes of evidence, charges, if any, and other papers and documents relating to the dismissal of Christian L. Ehler, postmaster at Queensport, N.S., and of all correspondence, petitions and other papers and documents relating to the appointment of his successor, with a detailed statement of the expenses of the said investigation, if any. Presented May 11, 1914.—*Mr. Sinclair*.....*Not printed.*

**44** (7*o*). Return to an Order of the House of the 12th March, 1914, for a return showing:—

1. Whether Christian L. Ehler, postmaster at Queensport, N.S., has been dismissed; and if so, when?
2. Whether the charges against this postmaster were in writing, and by whom the said charges were signed?
3. What the charges were?
4. Who conducted the investigation, if any?
5. Whether the investigation took place after the dismissal or before?
6. Whether the commissioner recommended the dismissal of this postmaster?
7. The names of the witnesses examined?
8. The expense of the investigation in detail?
9. If the Postmaster General is of the opinion that the evidence taken at the investigation justified this dismissal? Presented May 11, 1914.—*Mr. Sinclair.*

*Not printed.*

**44** (7*p*). Return to an Order of the House of the 19th February, 1913, for a copy of all letters, petitions, telegrams, complaints, findings, reports and other papers in the possession of the Post Office Department, or any Department of the Government, relating to the dismissal or discharge of James White, postmaster at Sidney, British Columbia, and if there was an investigation, the names of the witnesses examined and a detailed statement of the expenses of such investigation; also of all letters, telegrams, recommendations and other papers connected with the appointment of his successor. Presented May 11, 1914.—*Mr. Sinclair*.....*Not printed.*

**44** (7*q*). Return to an Order of the House of the 9th March, 1914, for a copy of the petition, recommendations and other correspondence relating to the change in the location of the post office at Mount St. Patrick in South Renfrew, and the dismissal of the postmaster. Presented May 11, 1914.—*Mr. Graham*.....*Not printed.*

**44** (7*r*). Return to an Order of the House of the 16th February, 1914, for a copy of all documents bearing on the dismissal of the officer in charge of the Port Daniel West, Quebec, lobster hatchery, Edward Dea, and on the appointment of his successor. Presented May 15, 1914.—*Mr. Marcil (Bonaventure)*.....*Not printed.*

**44** (7*s*). Return to an Order of the House of the 20th April, 1914, for a copy of all correspondence in connection with the dismissal of A. C. Cameron of Fairlight, Saskatchewan, from his position as mail contractor. Presented May 16, 1914.—*Mr. Turriff.*

*Not printed.*

**44** (7*t*). Return to an Order of the House of the 16th March, 1914, for a copy of all charges, correspondence, letters, petitions, telegrams and other documents relating to the dismissal of Mr. Geo. F. Payne, postmaster at Granby, Shefford County, Quebec, and of the appointment of his successor, Mr. J. L. Dozois, N.P., and also of the transfer of the said office from the one to the other, together with a copy of the evidence taken at all investigations held in connection with the said dismissal, appointment and transfer, and of the reports of said investigations. Presented May 16, 1914.—*Mr. Boivin.*

*Not printed.*

**44** (7*u*). Return to an Order of the House of the 30th March, 1914, for a return showing the names of the postmasters who have been dismissed from the office since 1900, in the County of Portneuf, the number of investigations and the names of those whose cases were investigated. Presented May 16, 1914.—*Mr. Delisle*.....*Not printed.*

**44** (7*v*). Return to an Order of the House of the 23rd March, 1914, for a copy of all letters, telegrams, correspondence, complaints and protests on file, reefrring to the dismissal of the late postmaster at Havre Boucher, N.S., and to the appointment of a successor. Presented May 16, 1914.—*Mr. Chisholm (Antigonish)*.....*Not printed.*

**44** (7*w*). Return to an Order of the House of the 6th April, 1914, for a copy of all documents, investigations, reports and letters, concerning the dismissal of William Campbell, light keeper on the wharf at New Richmond, Quebec, and the appointment of James Robertson as his successor; together with a copy of recommendations and the letters respecting the appointment, if any. Presented May 29, 1914.—*Mr. Marcil (Bonaventure).*

*Not printed.*

## CONTENTS OF VOLUME 28—*Continued.*

**44** (7*x*). Supplementary Return to an Order of the House of the 2nd February, 1914, for a return showing in detail the number of dismissals from public offices and positions of employment by the present Government since the first day of February, 1913, to date, in the County of Westmorland, New Brunswick, in connection with any of the Departments of the Public Service, except the Post Office Department, together with the names of the dismissed officials or employees, the reasons for their respective dismissal, the complaints or charges against them, and by whom made; together with a copy of all correspondence, letters, telegrams and other communications with respect to each such case of dismissal and of all minutes of evidence of investigations where any such were held and of all reports relating to such dismissals now in the possession of any of the departments of the Government, or of the Government Railway Managing Board, or of the officials of the Intercolonial and the Prince Edward Island Railways; also the names of all parties appointed to fill the vacancies caused by such dismissals, and the names of the persons by whom the same have been respectively recommended for appointment; together with a detailed statement of all amounts and expenses paid by any department in connection with the said dismissals and investigations or removals from office. Presented June 2, 1914.—*Mr. Emmerson*.....*Not printed.*

**44** (7*y*). Return to an Order of the House of the 14th April, 1913, for a return showing the detail and number of dismissals from public offices in the Department of Marine and Fisheries from December 5, 1912, to this date, in the County of Bonaventure, the names of the dismissed occupants, the reasons for their dismissal, the complaints against such officials, and a copy of all correspondence with respect to the same, and of all reports of investigations, where such were held; as well as a list of the new appointments made by the department, with names, residence, salaries and duties, and a copy of all recommendations of such appointments. Presented June 2, 1914.—*Mr. Marcil (Bonaventure)*. *Not printed.*

**44** (7*z*). Return to an Order of the House of the 4th May, 1914, for a copy of all complaints and other documents bearing upon the dismissal of J. R. Denison as postmaster of Richmond, Quebec, and the appointment of his successor. Presented June 2, 1914.—*Mr. Tobin* ..... *Not printed.*

**44** (8*a*). Return to an Order of the House of the 4th May, 1914, for a copy of all correspondence exchanged by and with the Department of Inland Revenue and the late J. G. Mousseau and A. M. Coldwell, New Carlisle, Quebec, and David Champoux, Campbellton, N.B., or Restigouche, Quebec, in connection with the dismissal of Arthur B. Caldwell, Assistant Inspector of Weights and Measures, District of Quebec. Presented June 8, 1914.—*Mr. Marcil*.....*Not printed.*

**44** (8*b*). Supplementary Return to an Order of the House of the 3rd March, 1913, for a return showing in detail the number of dismissals from public offices and positions of employment by the present Government since the 11th day of October, 1911, to this date, in the County of Annapolis, Nova Scotia, in connection with any of the departments of the public service, but not including cases in which orders have already passed together with the names of the dismissed officials or employees, the reason for their respective dismissals, the complaints or charges against them, and by whom made; together with a copy of all correspondence, letters, telegrams and other communications with respect to each such case of dismissal, and of all minutes of evidence of investigations, where any such were held, and of all reports relating to such dismissals now in the possession of any of the departments of the government; also the names of all parties appointed to fill vacancies caused by such dismissals, and the names of the persons by whom the same have been respectively recommended for appointment; together with a detailed statement of all amounts and expenses paid by any department in connection with the said dismissals and investigations or removals from office. Presented June 8, 1914.—*Mr. Chisholm (Antigonish)*.....*Not printed.*

**44** (8*c*). Partial Return to an Order of the House of the 18th February, 1914, for a copy of all charges, complaints, memorials, correspondence and telegrams, not already produced, relating to officials in any department of the Government since October 10, 1911, the number of officials dismissed, reports of investigations held in respect of such charges, items of expenditure and cost of each investigation, the names of persons appointed to office in the place of dismissed officials, and of all recommendations received in behalf of persons so appointed in the Province of Prince Edward Island. Presented June 12, 1914.—*Mr. Hughes (Kings, P.E.I.)*.....*Not printed.*

**44** (8*d*). Return to an Order of the House of the 1st June, 1914, for a copy of all charges and complaints, letters, telegrams and correspondence respecting the dismissal of Captain Jeremiah Decoste, mate and craneman, employed on dredge *No. 6* under Captain Dan Gillis during the season of 1912, and of all representations made and correspondence had with the Department of Public Works, or any officer thereof regarding his re-instatement. Presented June 12, 1914.—*Mr. Chisholm (Antigonish)*....*Not printed.*

**45.** Return to an Order of the House of the 12th May, 1913, for a copy of all communications made by the Canadian Forestry Association to the Government between March 31, 1912, and March 31, 1913, with the replies made thereto. Presented January 19, 1914.—*Mr. Oliver* ..... *Not printed.*

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**46.** Return to an Order of the House of the 16th January, 1913, for a return showing the number of bushels of grain and sacks or barrels of flour which were shipped from Fort William and Port Arthur by vessel during 1912, and the different kinds of grain respectively; to what points were the same shipped in Canada and the United States giving quantities and kinds respectively, and at what points in Canada was grain or flour received by vessel from the United States, giving the quantities and kinds respectively. Presented January 19, 1914.—*Mr. Bennett (Simcoe)*.....*Not printed.*

**47.** Return to an Order of the House of the 7th May, 1913, for a copy of the report concerning Indian Titles which was presented to the Superintendent General of Indian Affairs under date of August 20, 1909. Presented January 19, 1914.—*Mr. Thompson (Yukon).* *Not printed.*

**48.** Copy of Order in Council No. P. C. 3002, dated 29th November, 1913, in respect to Pensions or Gratuities to officers of the Royal Canadian Navy, in accordance with section 47 of the Naval Service Act, 1910. Presented by Hon. Mr. Hazen, January 19, 1913. *Not printed.*

**49.** Return to an Order of the House of the 26th May, 1913, for a copy of all telegrams, letters, &c., from the Department of Customs sent to or received from John C. Bourinot, Port Hawkesbury, customs officer, during the years 1895-6-7. Presented January 19, 1914. —*Mr. Chisholm (Inverness)*.....*Not printed.*

**49a.** Return to an Order of the House of the 26th May, 1913, for a return showing a complete list of the seizures made by John C. Bourinot, during his incumbency as acting preventive officer from 1884 to 1886; also during his term of office as Collector of Customs for the Port of Hawkesbury from 1886 to 1898, also during his term of office of special officer of customs from 1898 to 1912; with the date of each seizure, number of each seizure, name of party from whom seizure was made, in case of vessels, the names of the vessels; also the names of the owners of such vessels, the amount of each seizure, name of port where seizure was made, and the amount of the seizures made by him from 1884 to May 1, 1912, for the whole Province of Nova Scotia. Presented January 19, 1914.—*Mr. Chisholm (Inverness)*.....*Not printed.*

**50.** Statement of Governor General's Warrants issued since the last session of parliament on account of 1913-14. Presented by Hon. Mr. White, January 19, 1914.....*Not printed.*

**51.** Statement in pursuance of Section 17 of the Civil Service Insurance Act, for the year ending March 31, 1913. Presented by Hon. Mr. White, January 19, 1914.....*Not printed.*

**52.** Statement of Superannuation and Retiring Allowances in the Civil Service during the year ending December 31, 1913, showing name, rank, salary, service, allowance and cause of retirement of each person superannuated or retired, also whether vacancy is filled by promotion or by appointment, and salary of any new appointee. Presented by Hon. Mr. White, January 19, 1914.....*Not printed.*

**53.** Statement of Receipts and Expenditures of the Ottawa Improvement Commission to March 31, 1913. Presented by Hon. Mr. White, January 19, 1914.....*Not printed.*

**54.** Statement of expenditure on account of "Miscellaneous Unforeseen Expenses," from the 1st April, 1913, to the 14th January, 1914, in accordance with the Appropriation Act of 1912. Presented by Hon. Mr. White, January 19, 1914.....*Not printed.*

**55.** Statement of the affairs of the Royal Society of Canada, for the year ended April 30, 1913. Presented by Hon. Mr. White, January 19, 1914.....*Not printed.*

**56.** Statement of Temporary Loans since March 31, 1913. Presented by Hon. Mr. White, January 19, 1914.....*Not printed.*

**57.** Statement of Treasury Bills discounted since March 31, 1913. Presented by Hon. Mr. White, January 19, 1914.....*Not printed.*

**58.** Certified List of Shareholders of the Montreal City and District Savings Bank, and La Caisse D'Economie de Notre Dame de Quebec, as on the 31st December, 1913. Presented by Hon. Mr. White, January 19, 1914.....*Not printed.*

**59.** Copies of General Orders promulgated to the militia for the period between November 18, 1912, and November 25, 1913. Presented by Hon. Mr. Hughes, January 19, 1914. *Not printed.*

**60.** Return to an Order of the House of the 30th April, 1913, for a copy of the report made by the Inquiring Commissioner, Mr. J. H. Bergeron, in the inquiry lately held by him, at Quebec, *re* Doctor J. D. Page, of Quebec ,and of the reports made by the advocate of the complainant and defendant in the same cause at the request of the Inquiring Commissioner. Presented January 20, 1914.—*Mr. Boulay*.....*Not printed.*

**61.** Return to an Order of the House of the 26th March, 1913, for a copy of all petitions, reports, recommendations, correspondence, letters, telegrams and other communications concerning the east half of section 36, in township 6, range 8, west of the fourth meridian. Presented January 20, 1914.—*Mr. Buchanan*.....*Not printed.*

## CONTENTS OF VOLUME 28—*Continued.*


**61a.** Return to an Order of the House of the 24th February, 1913, for a copy of all memoranda, letters, papers, or other documents in the possession of the Department of the Interior relating to the N.W. ¼ of 8-49-23-4, and the S.W. ¼ of 7-49-28-4. Presented January 20, 1914.—*Mr. Oliver*.....*Not printed.*

**62.** Return to an Order of the House of the 22nd January, 1913, for a copy of all correspondence, &c., exchanged between the Minister of Labour and the Canadian Pacific Railway strikers on their application for a Board of Conciliation and Investigation. Presented January 20, 1914.—*Mr. Lemieux*.....*Not printed.*

**63.** By-laws of the Moravian Indians of the Thames and Regulations of the Abenakis Indians of St. Francis, approved by His Excellency the Administrator in Council on the 27th March, 1913, and the 21st April, 1913, respectively. Presented by Hon. Mr. Coderre, January 20, 1914.....*Not printed.*

**64.** General Rules and Orders of the Exchequer Court of Canada made, respectively, on the 24th September, 1913, and the 13th December, 1913. Presented by Hon. Mr. Coderre, January 20, 1914.....*Not printed.*

**65.** Regulations under "The Destructive Insect and Pest Act."—(*Senate*).....*Not printed.*

**66.** Remission of Duties and refund under Section 92, Audit Act.—(*Senate*).....*Not printed.*

**67.** Return to an Order of the House of the 19th May, 1913, for a return showing a comparative and detailed statement of costs of production, maintenance, operation, and management, and receipts of the Dog Fish Reduction Works at Clark's Harbour, N.S., for the years 1910, 1911 and 1912. Presented January 21, 1914.—*Mr. Maclean (Halifax)*. *Not printed.*

**68.** Return to an Order of the House of the 21st May, 1913, for a copy of all papers, letters, documents, contracts, settlements, records of settlements, and all other papers and documents in any way relating to the claim of the Rainy River Navigation Company against the Government, arising out of a subsidy agreement for the operation of certain boats between Fort Frances and Kenora for the season of 1911, or in connection with the settlement of the said claim, or of the said subsidy. Presented January 21, 1914.—*Mr. Maclean (York)*.....*Not printed.*

**69.** Return to an Order of the House of the 31st March, 1913, for a copy of all correspondence, letters, telegrams, reports, recommendations, certificates, and of all other documents relating to the appointment of Mr. J. S. Jackson as superintendent of the Government shipyards at St. Joseph de Sorel. Presented January 22, 1914.—*Mr. Cardin*. *Not printed.*

**70.** Return to an Order of the House of the 29th January, 1913, for a copy of all letters, petitions, telegrams, complaints, reports, bonds of indemnity, and all other papers and documents in the possession of the Post Office Department, or any department of the Government, relating to the letting of a contract for carrying the mails between Sherbrooke, County of Guysborough, N.S., and Moser's River, County of Halifax, N.S., during the years 1911 and 1912. Presented January 22, 1914.—*Mr. Sinclair*.....*Not printed.*

**70a.** Return to an Order of the House of the 29th January, 1913, for a copy of all letters, and other documents relating to the mail contract between Scotsburn Station and West Branch, River John, County of Pictou, in the year 1912. Presented January 22, 1914. —*Mr. Macdonald*.....*Not printed.*

**70b.** Return to an Order of the House of the 2nd April, 1913, for a copy of all correspondence, reports and other documents relative to the mail contract between Scotsburn and West Branch, River John, Pictou County, since October 1, 1911. Presented January 22, 1914. —*Mr. Macdonald*.....*Not printed.*

**70c.** Return to an Order of the House of the 10th December, 1912, for a return showing (*a*) each mail contract awarded since the 15th of October, 1911; (*b*) the name of the tenderer in each case; (*c*) the figures of each tender; and (*d*) the name of each party to whom such contract has been awarded. Presented January 22, 1914.—*Mr. Lemieux*.....*Not printed.*

**70d.** Return to an Order of the House of the 15th January, 1913, for a return showing a list of the mail carriers whose contracts have been cancelled or renewed by the present Government in the County of Two Mountains, the names of such persons, the reasons for cancelling or renewing the said contracts, the former price and the present price of the said contracts; also a copy of all correspondence relating to the said mail carriers. Presented January 22, 1914.—*Mr. Ethier*.....*Not printed.*

**70e.** Return to an Order of the House of the 9th December, 1912, for a return showing all the mail contracts made between the Post Office Department of Canada and any party or parties, and cancelled before the maturity thereof from October 15, 1911, to the 15th of November, 1912, designating such cancelled mail contracts by giving the name of the contractor, the amount of the contract, the period of the unexpired service, the name of the district or districts, and the county and province wherein the service was performed, together with the reasons for such cancellation. Presented February 12, 1914. —*Mr. Maclean (Halifax)*.....*Not printed.*

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**70*f*.** Return to an Order of the House of the 29th January, 1913, for a copy of all papers, and documents of every nature and kind relating to a certain mail contract between Back Shore and Pictou, County of Pictou, since the death of the late contractor D. G. McKay, in 1912. Presented February 20, 1914.—*Mr. Macdonald*.....*Not printed.*

**70*g*.** Return to an Order of the House of the 14th April, 1913, for a copy of the contract between the Post Office Department and Napoleon Le Blanc, for the carrying of the mails between Carleton Centre and Carleton, Quebec, Railway Station, and of all correspondence, petitions, and other letters bearing on the cancelling of that contract and the awarding of a new one, with a copy of said new contract. Presented February 23, 1914.—*Mr. Marcil (Bonaventure)*.....*Not printed.*

**70*h*.** Return to an Order of the House of the 2nd April, 1913, for a copy of all papers relating to the mail contract from Noël to Walton, County of Hants, during the present year. Presented February 26, 1914.—*Mr. Macdonald*.....*Not printed.*

**70*i*.** Return to an Order of the House of the 12th May, 1913, for a copy of all tenders for, and correspondence relating to, the awarding of the contract for the carrying of His Majesty's mail between Warkworth and Colborne, County of Northumberland. Presented February 26, 1914.—*Mr. Graham*.....*Not printed.*

**70*j*.** Return to an Order of the House of the 12th May, 1913, for a copy of all correspondence, papers, &c., in connection with the carrying of the mail between St. François Xavier de Brompton and Windsor Mills, Quebec. Presented February 26, 1914.—*Mr. Tobin.* *Not printed.*

**70*k*.** Return to an Order of the House of the 17th February, 1913, for a return showing the number of mail contracts cancelled in the Province of Nova Scotia since October 10, 1911, the names of the contractors, the prices paid to them, the reason for the cancellation in each case, and a copy of any investigations and reports had into the causes of such cancellations, the names of the new contractors and the prices paid to them in each case. Presented March 2, 1914.—*Mr. Sinclair*.....*Not printed.*

**70*l*.** Return to an Order of the House of the 4th December, 1912, for a return showing the number of mail contracts cancelled in the County of Pictou since the 1st of October, 1911; the names of the contractors, the prices paid to them, the reason for the cancellation in each case; and a copy of any investigations and reports had into the causes of such cancellations, the names of the new contractors and the prices paid to them in each case. Presented March 2, 1914.—*Mr. Macdonald*.....*Not printed.*

**70*m*.** Return to an Order of the House of the 31st March, 1913, for a copy of all tenders received and of all letters, telegrams, papers and other documents relating to the mail contract between Tatamagouche and Brulé Shore, Colchester County, during the present year. Presented March 2, 1914.—*Mr. Macdonald*.....*Not printed.*

**70*n*.** Return to an Order of the House of the 9th December, 1912, for a copy of all letters, telegrams and correspondence referring to the tenders received and the contracts awarded, if any, for the carrying of the mails between Antigonish and Livingstone Cove. Presented March 5, 1914.—*Mr. Chisholm (Antigonish)*.....*Not printed.*

**70*o*.** Return to an Order of the House of the 19th May, 1913, for a copy of all telegrams and correspondence on file relating to the mail service between Antigonish and Livingstone Cove, and of the tenders received, and the contract entered into for this service. Presented March 12, 1914.—*Mr. Chisholm (Antigonish)*.....*Not printed.*

**70*p*.** Return to an Address to His Excellency the Administrator of the 28th April, 1913, for a copy of all documents, tenders, contracts, correspondence, orders in council, &c., in reference to the mail service between Bridgetown, Port Lorne and Hampton, Parker's Cove, Annapolis County, N.S., for which service tenders were recently solicited. Presented March 12, 1914.—*Mr. Maclean (Halifax)*.....*Not printed.*

**70*q*.** Return to an Order of the House of the 9th February, 1914, for a copy of the advertisement for tenders, and of the tenders received, and of the contract awarded last year, for the carrying of the mails between Antigonish and Livingstone Cove, and of all letters, telegrams, correspondence and documents in any way relating thereto. Presented March 12, 1914.—*Mr. Chisholm (Antigonish)*.....*Not printed.*

**70*r*.** Return to an Order of the House of the 2nd February, 1914, for a return showing the names of all persons tendering, the amount of tender, and to whom awarded in 1913, for the carriage of mails covering the following mail routes in Shelburne County, Nova Scotia; Shelburne to Jordan Bay and Jordan Ferry and return; Clyde River to Upper Clyde and return; Lower Woods Harbour to Charlesville and return; Port Le Herbert to Sable River. Presented March 20, 1914.—*Mr. Maclean (Halifax)*.....*Not printed.*

**70*s*.** Return to an Order of the House of the 9th February, 1914, for a copy of all tenders, contracts, documents, papers and correspondence in connection with tenders and contracts for the carriage of mails between Bridgetown and Port Lorne, Hampton and Parker's Cove, in 1912. Presented March 20, 1914.—*Mr. Maclean (Halifax)*.....*Not printed.*

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**70***t*. Return to an Order of the House of the 9th February, 1914, for a copy of the contract entered into last year for the carrying of the mails between North Lochaber and Collegeville, and of all letters, telegrams, and correspondence referring to said service and the awarding of said contract. Presented March 23, 1914.—*Mr. Chisholm (Antigonish).* *Not printed.*

**70***u*. Return to an Order of the House of the 9th February, 1914, for a copy of the advertisement for tenders, and of the tenders received last year for the carrying of the mails between Merigomish and Malignant Cove, and of all letters, telegrams and correspondence and documents in any way relating thereto. Presented March 25, 1914.—*Mr. Chisholm (Antigonish)*.....*Not printed.*

**70***v*. Return to an Order of the House of the 19th March, 1914, for a return showing how many mail contracts have been cancelled in the County of Inverness from September, 1911, up to date.

2. The route of each contract, the name of the contractor, and the amount of each contract.

3. The reasons for cancelling the several contracts. Presented April 22, 1914.—*Mr. Chisholm (Inverness)*.....*Not printed.*

**70***w*. Return to an Order of the House of the 30th March, 1914, for a copy of all letters, telegrams, correspondence, guarantee bonds, and other documents and security relating to the renewal of the contract with George A. Stewart for carrying mail between North Lochaber and West Lochaber, in or about the month of May, 1913, of the subsequent cancellation of said renewal contract, and of the contract made with Hugh D. Cameron for said service. Presented April 29, 1914.—*Mr. Chisholm (Antigonish)*..*Not printed.*

**70***x*. Return to an Order of the House of the 4th March, 1914, for a copy of all correspondence, telegrams and papers generally concerning the increased railway mail subsidy recently agreed upon by the Postmaster General and the various railway companies. Presented April 30, 1914.—*Mr. Lemieux*.....*Not printed.*

**70***y*. Return to an Order of the House of the 4th May, 1914, for a return showing the names of the 82 tenderers for the carrying of the mails between Baie St. Paul and Murray Bay, County of Charlevoix, and the amount of the tender in each case. Presented May 8, 1914.—*Mr. Lemieux*.....*Not printed.*

**70***z*. Retun to an Order of the House of the 20th April, 1914, for a copy of all letters, papers, contracts, memoranda and other documents relative to the mail contract between Pictou post office and railway station, between the Post Office Department and Peter Foley. Presented May 8, 1914.—*Mr. Macdonald*.....*Not printed.*

**70** (2*a*. Return to an Order of the House of the 23rd March, 1914, for a copy of all documents, letters, recommendations, &c., in connection with a contract awarded to Christophe Lavesque, of St. Eleuthère, for the conveyance of the mail between St. Eleuthère and Sully. Presented May 11, 1914.—*Mr. Lapointe (Kamouraska)*.....*Not printed.*

**70** (2*b*). Return to an Order of the House of the 11th May, 1914, for a return showing:—

1. Whether Mr. David Armstrong, mail carrier of the City of Sherbrooke, has been dismissed. If so, for what cause?

2. Whether an investigation was held at which he was given an opportunity of meeting his accusers and being heard in his own defence?

3. How many years Mr. Armstrong has been in the service?

4. What remuneration he was receiving for his services?

5. Whether a successor has been appointed? If so, what his name is, who recommended him and what remuneration he received. Presented May 28, 1914.—*Mr. McCrea*.....*Not printed.*

**70** (2*c*). Return to an Order of the House of the 18th May, 1914, for a copy of all correspondence, papers, tenders and other documents in any way referring to the transfer from J. A. Campbell to Alexander Macdonnell of the contract for carrying the mail from Port Hood to South West Port Hood. Presented June 2, 1914.—*Mr. Chisholm (Inverness)*.....*Not printed.*

**70** (2*d*). Return to an Order of the House of the 17th February, 1913, for a return in duplicate showing the number of mail contracts cancelled in the Counties of Westmorland, Albert, Kings and Kent, Province of New Brunswick, since October 9, 1911, the names of the contractors, the prices paid to them, the reason for the cancellation in each case, and a copy of any investigations and reports had into the causes of such cancellations, the names of the new contractors, and the prices paid to them in each case; and in cases where tenders were asked and received preliminary to such new contracts, a statement in duplicate showing names of the tenderers, with the offers made by each, the name of the successful tenderer, and the amount or price, for which contract was executed in each case; together with a copy in duplicate of all letters, correspondence and other communications relating to each such cancellation and the giving of any new contract. Presented June 2, 1914.—*Mr. Emmerson*.....*Not printed.*

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**71.** Return to an Order of the House of the 2nd June, 1913, for a copy of all correspondence and telegrams relating to complaints, political or otherwise, made against Mrs. Marcelline Roy, postmistress at Elm Tree, Gloucester County, N.B., which led the department to issue an order for an investigation, and the said postmistress to tender her resignation, and to the appointment of her successor. Presented January 22, 1914.—*Mr. Turgeon* ..... *Not printed.*

**72.** Return to an Order of the House, of the 26th March, 1913, for a copy of all petitions recommendations, correspondence, letters, telegrams and other communications concerning the change in location of the post office known as Masinasin, Province of Alberta. Presented January 22, 1914.—*Mr. Buchanan*..... *Not printed.*

**73.** Return to an Order of the House of the 31st March, 1913, for a copy of all letters, telegrams and petitions concerning the closing of the Moulin Basinet post office, Parish of St. Jean de Matha, County of Joliette. Presented January 22, 1914.—*Mr. Lemieux.* *Not printed.*

**74.** Return to an Order of the House of the 7th April, 1913, for the production of one sample of a patented lock and key sold by the Ontario Equipment Company of Ottawa to the Post Office Department. Presented January 22, 1914.—*Mr. Verville*..... *Not printed.*

**74a.** Return to an Order of the House of the 2nd April, 1913, for a copy of all correspondence between the Post Office Department and Alleyn Taschereau, advocate of Quebec, concerning the purchase of new locks for the mail bags. Presented January 22, 1914.—*Mr. Carvell* ..... *Not printed.*

**74b.** Return to an Order of the House of the 4th March, 1914, for a copy of the application, correspondence and papers generally concerning mail lock patent No. 151043. Presented May 11, 1914.—*Mr. Lemieux*..... *Not printed.*

**75.** Return to an Order of the House of the 10th February, 1913, for a copy of all letters, telegrams and other correspondence exchanged between the Post Office Department and Messrs. A. de Macdonald, Elzear Monpetit and all others, relating to the change of the postmasters at Ile Perrot North and Ile Perrot South, Vaudreuil Station, Roquebrune, St. Lazare Village, Mount Oscar and Pte. Fortune, and of the report of the inquiring commissioner in each of the cases in which an inquiry was held; of the correspondence exchanged between the parties above named relative to the new post office building at Rigaud and of correspondence exchanged between the parties above mentioned, relating to the post offices lately named Choisy and Demartigny. Presented January 22, 1914.—*Mr. Boyer* ..... *Not printed.*

**75a.** Return to an Order of the House of the 9th April, 1913, for a copy of all documents bearing on changes asked for in the postmastership of Port Daniel Centre, Avignon, New Richmond and Black Cape, Bonaventure County; and of all documents bearing on the closing of Black Cape East post office, Bonaventure County. Presented January 22, 1914.—*Mr. Marcil* ..... *Not printed.*

**75b.** Return to an Order of the House of the 2nd February, 1914, for a copy of all letters, telegrams, papers, and other documents connected with the removal of the post office from the store of Alexander Robertson at Red Point, P.E.I., to the store of J. E. Robertson of the same place. Presented February 20, 1914.—*Mr. Hughes (P.E.I.)*..*Not printed.*

**75c.** Return to an Order of the House of the 16th February, 1914, for a copy of any complaints made against John A. Campbell, postmaster of New Richmond, Quebec, and of all correspondence bearing on any change called for in that office. Presented March 17, 1914.—*Mr. Marcil (Bonaventure)*..... *Not printed.*

**76.** Return to an Order of the House of the 7th May, 1913, for a copy of all correspondence and telegrams exchanged between the Post Office Department, the Government or any member thereof, the post office inspector at St. John, N.B., or any official of the Post Office Department at St. John, N.B., on the one hand, and the postmaster at Kouchibouguac, Kent County, N.B., Mr. Cliff Atkinson, or any other person, corporation or firms, relating to the sale or non-purchase of postage stamps, or the mailing of letters, delivery of mail, &c., at the said post office; together with a copy of all correspondence, reports and other papers and documents in any wise relating thereto, on file in the Post Office Department at Ottawa, or in the office of the post office inspector at St. John, N.B.; also a copy of all regulations or orders of the Post Office Department relating to the sale of postage stamps, or the mailing of letters, or the delivery of mails, or generally as to the use of post office by residents and non-residents. Presented January 22, 1914.—*Mr. Emmerson* ..... *Not printed.*

**77.** Return to an Order of the House of the 2nd June, 1913, for a return showing the names, dates of appointment and salary respectively, of the employees of the Moosejaw post office. Presented January 22, 1914.—*Mr. Knowles*..... *Not printed.*

**77a.** Return to an Order of the House of the 24th February, 1913, for a copy of all letters, telegrams, recommendations, petitions and documents, relating to the appointment of Mr. Pierre Cournoyer as postmaster at St. Pierre de Sorel, County of Richelieu. Presented January 22, 1914.—*Mr. Cardin*..... *Not printed.*

## CONTENTS OF VOLUME 28—*Continued.*

77*b*. Return to an Order of the House of the 14th April, 1913, for a return showing what public officers have been appointed in the City of Quebec, in the Departments of Inland Revenue, Post Office, Railways and the Transcontinental, Customs, Immigration, Marine and Fisheries, Public Works and Militia, since the 1st October, 1911, up to this date; together with the names and duties of these persons, the dates of their appointment, the salary paid in each case and the increases granted since; also the date of these increases, and which ones of these officers have passed the Civil Service examinations required for the positions which they occupy, and on what dates they passed such examinations; and also a copy of all correspondence, requests, recommendations and reports relating to the appointment of these officers. Presented January 22, 1914.—*Mr. Lachance.*
*Not printed.*

77*c*. Return to an Order of the House of the 29th January, 1913, for a copy of all letters, petitions, telegrams, complaints, evidence, reports and other papers and documents in the possession of the Department of Railways and Canals, or of the Intercolonial Railway, or of the Government Railways Managing Board, relating or in any manner appertaining to the appointment and employment of train or ticket agents on the Intercolonial Railway and Prince Edward Island Railway, together with a copy of all statements showing the amounts received by said agent, in cash and tickets, on the trains of the respective divisions of said railways; and also showing the amounts received during corresponding periods for the past two years, in cash and tickets, on the same trains on the said respective divisions by the conductors of said trains, when no train or ticket agents were employed thereon, either before or since the employment of such agents on the respective trains and also a copy of all statements showing the results of the experiment in employing such ticket agents. Presented January 22, 1914.—*Mr. Emmerson* .....*Not printed.*

77*d*. Partial Return to an Order of the House of the 9th December, 1912, for a return showing when Mr. J. G. H. Bergeron was appointed commissioner to hold investigations, the number of investigations held since his appointment, salary received in each case and the amount paid for travelling expenses in each case. Presented January 22, 1914.—*Mr. Lemieux* .....*Not printed.*

77*e*. Return to an Address to His Royal Highness the Governor General of the 29th January, 1913, for a copy of all orders in council, memoranda or instructions issued to or written to H. P. Duchemin in connection with his appointment as a commissioner to conduct investigations regarding political partisanship in the Province of Nova Scotia; also a copy of all letters received by any department of the Government from the said H. P. Duchemin relating to such investigations since the date of his appointment as such commissioner, and all instructions of whatever nature at any time issued to him relating to such investigations. Presented January 22, 1914.—*Mr. Lemieux*....*Not printed.*

77*f*. Appointment of F. Roy, as postmaster of St. Phillipe de Nery, &c., Province of Quebec. Presented January 22, 1914.—*Mr. Lapointe (Kamouraska)*.....*Not printed.*

77*g*. Supplementary Return to an Order of the House of the 9th December, 1912, for a return showing when Mr. J. G. H. Bergeron was appointed commissioner to hold investigations, the number of investigations held since his appointment, salary received in each case and the amount paid for travelling expenses in each case. Presented February 23, 1914.—*Mr. Lemieux* .....*Not printed.*

77*h*. Return to an Order of the House of the 9th February, 1914, for a copy of all correspondence, telegrams, and other documents, relating to the removal of T. J. Oliver, as Dominion Lands Agent at Humboldt, Saskatchewan, his appointment to his present position, and the appointment of his successor at Humboldt. Presented March 6, 1914.—*Mr. Neely* .....*Not printed.*

77*i*. Return to an Order of the House of the 9th February, 1914, for a copy of all correspondence, telegrams, letters of instructions, or other documents relating to the removal of W. S. McKechnie, as Dominion Lands Agent at Prince Albert, Saskatchewan, and the appointment of his successor. Presented March 6, 1914.—*Mr. Neely*.....*Not printed.*

77*j*. Return to an Order of the House of the 2nd February, 1914, for a copy of all correspondence, telegrams and papers generally in connection with the appointment of Joseph Lemieux as postmaster at Mont Louis, County of Gaspé. Presented March 6, 1914.—*Mr. Lemieux* .....*Not printed.*

77*k*. Return to an Order of the House of the 7th April, 1913, for a copy of all correspondence, telegrams, petitions, affidavits, complaints, certificates, recommendations, reports and other documents relating to the engagement and appointment for the year 1913, of the captains and first and second engineers for dredging machines Nos. 1, 2, 3, 4, 5, 6, 7, 8, 9, 10 and 11 of the Department of Marine and Fisheries, under the control of the agency at Sorel, and employed in the deepening of the St. Lawrence below Montreal. Return to an Order of the House of the 7th April, 1913, for a copy of all correspondence, telegrams, petitions, affidavits, complaints, certificates, recommendations, reports and other documents, relating to the engagement and appointment of the captains and engineers for the year 1913, for the tugs *Carmelia, Chambly, Contrecoeur, De Lévis, Emilia, Iberville, James Howden, Jesse Hume, Lac St. Pierre, Lanoraie, Lotbiniere, Portneuf, Varennes and Vercheres,* of the Department of Marine and Fisheries under the control of the agency at Sorel. Presented March 23, 1914.—*Mr. Cardin*.....*Not printed.*

## CONTENTS OF VOLUME 28—*Continued.*

**77***l*. Return to an Order of the House of the 23rd March, 1914, for a return showing:—

1. How many additional employees have been added to the Customs Department in the City of Halifax, since October 10, 1911.

2. Their names and salaries at the time of their appointment, their respective salaries at present, and also their respective ages at the time of appointment.

3. Whether all of them passed the necessary Civil Service examinations for the Customs service.

4. How many temporary clerks there are upon the said Customs staff, who they are, and the dates of their appointment. Presented April 2, 1914.—*Mr. Maclean (Halifax)* .....*Not printed.*

**77***m*. Return to an Order of the House of the 28th April, 1913, for a copy of all letters and telegrams exchanged between the Government and Messrs. Arch. Macdonald, Elz. Monpetit and others, on the subject of the appointment of caretakers of the post office at Rigaud, Messrs. Jean Baptiste Charlebois and Napoleon Vallée. Presented April 2, 1914. —*Mr. Boyer* .....*Not printed.*

**77***n*. Return to an Order of the House of the 23rd February, 1914, for a copy of all correspondence, recommendations, &c., relating to the appointment of Allan Morrison, St. Peter's, N.S., as inspector of dwellings erected on Gregory Island, Richmond County, N.S., in 1912-1913, and of all accounts, charges, vouchers, &c., rendered to the Department of Marine and Fisheries by the said Allan Morrison as such inspector. Presented April 7, 1914.—*Mr. Kyte* .....*Not printed.*

**77***o*. Return to an Order of the House of the 9th February, 1914, for a return showing the names, date of appointment, length of service, remuneration and office held by each of all the employees of the Department of the Interior in the outside service since January 1, 1912, to December 31, 1913, not given in the Civil Service list of 1912 or 1913. Presented April 21, 1914.—*Mr. Neely*.....*Not printed.*

**77***p*. Return to an Order of the House of the 16th April, 1914, for a return showing:—

1. How many appointments have been made in the Customs Department at Montreal since the 1st of October, 1911.

2. The names of the persons so appointed, and the dates of their respective appointments.

3. After what recommendations have they been appointed.

4. The salary of each of these new employees.

5. What increases of salaries have been granted in the same department since the same date, and to whom, and why. Presented April 29, 1914.—*Mr. Proulx.*
*Not printed.*

**77***q*. Return to an Order of the House of the 2nd February, 1914, for a return showing the number of engineers, assistant engineers, draftsmen, clerks, divers, and students in engineering or surveying, or other parties employed by the Department of Public Works in the constituency of Bonaventure, from October 11, 1911, to date, with their names, residences, salaries, nature of their work, time employed, and on whose recommendation, together with a copy of all correspondence, and reports bearing on such employment, and of reports made to the said Department of Public Works in that constituency from January, 1913, to date. Presented April 30, 1914.—*Mr. Marcil (Bonaventure).*
*Not printed.*

**77***r*. Return to an Order of the House of the 12th March, 1914, for a return showing:—

1. Whether Louis Philippe Thibault, Alphonse Poirier, J. A. Morin, C. F. Rioux, Thomas Thibault and Adjutor Demers, of Lévis, have been appointed to positions under the control of the Postmaster General of Canada.

2. If so, to what positions they have been appointed, what their duties are, when they were appointed and their salaries, respectively.

3. The names of the officers who have been dismissed and replaced by the above.

4. The total amount of the annual salaries of said dismissed officers. Presented May 4, 1914.—*Mr. Bourassa*.....*Not printed.*

**77***s*. Return to an Order of the House of the 16th March, 1914, for a copy of all recommendations, protests, petitions, and representations received by the Government or any Department or Minister thereof, regarling the appointment of the present collector of customs at Antigonish, and of all the letters, telegrams and correspondence relating thereto. Presented May 15, 1914.—*Mr. Chisholm (Inverness)*.....*Not printed.*

**77***t*. Return to an Order of the House of the 16th March, 1914, for a copy of all recommendations, protests, petitions, and representations received by the Governmest or any Department or Minister thereof, regarding the appointment of the present collector of customs at Antigonish, and of all the letters, telegrams and correspondence relating thereto. Presented May 16, 1914.—*Mr. Chisholm (Antigonish)*.....*Not printed.*

**77***u*. Return to an Order of the House of the 16th February, 1914, for a copy of all papers in connection with the employment of Arthur Dubisson as immigration agent at Gravelburg, Sask., and all papers in connection with the said Dubisson, showing the moneys paid to him and the work performed by him. Presented May 30, 1914.—*Mr. Knowles.*
*Not printed.*

## CONTENTS OF VOLUME 28—*Continued.*

**78.** Return to an Order of the House of the 7th April, 1913, for a copy of all documents, recommendations and correspondence relating to the resignation of C. A. R. Desjardins, as postmaster at St. Andre de Kamouraska, and the appointment of his successor. Presented January 22, 1914.—*Mr. Lapointe (Kamouraska)*.....*Not printed.*

**78a.** Return to an Order of the House of the 28th April, 1913, for a copy of all complaints or charges against Fred. R. Irish, postmaster at Afton, Antigonish County, N.S., and of all correspondence on file in reference thereto. Presented January 22, 1914.—*Mr. Chisholm (Antigonish)*.....*Not printed.*

**79.** Return to an Order of the House of the 29th January, 1913, for a copy of all correspondence, papers, &c., concerning the application made by the Long Sault Development Company, with a view to dam the St. Lawrence river above the Long Sault rapids from the American to the Canadian side. Presented January 22, 1914.—*Mr. Lemieux.*
*Not printed.*

**79a.** Supplementary Return to an Order of the House of the 29th January, 1913, for a copy of all correspondence, papers, &c., concerning the application made by the Long Sault Development Company, with a view to dam the St. Lawrence river above the Long Sault rapids from the American to the Canadian side. Presented February 12, 1914.—*Mr. Lemieux*.....*Not printed.*

**80.** Return to an Order of the House of the 21st April, 1913, for a return showing all leases of water powers granted on the Winnipeg river, the dates of such leases, to whom granted, and the location of the water powers covered by each; together with a copy of all correspondence passing between the Government, or any member thereof and any person or persons, with respect to such leases. Presented January 22, 1914.—*Mr. Martin (Regina)*.....*Not printed.*

**80a.** Return to an Order of the House of the 2nd April, 1913, for a return showing whether the Government cancelled any water lot leases on the Lachine Canal and, if so, the dates of such cancellation; the names of the lessees; length of time the cancelled leases were in force, and the rental paid in each case; the names of the lessees whose water lot leases on the said canal have not been cancelled, and the rental paid by each; the basis on which rental has been calculated and the method to be followed in future; the reasons why some leases were cancelled and others allowed to remain in force; and if tenders are to be invited through the press for such water lot leases in future. Presented January 22, 1914.—*Mr. Buchanan*.....*Not printed.*

**80b.** Return to an Order of the House of the 23rd April, 1913, for a return showing all leases or permits granted to clubs or individuals to erect or maintain boat houses on the Rideau canal between Laurier avenue bridge and Hartwells Locks, the date of such leases or permits, to whom granted, and the rental in each case; together with a copy of all correspondence between the Government, or any member thereof, and any person or persons with respect to such leases or permits and the cancellation thereof. Presented January 22, 1914.—*Mr. Murphy*.....*Not printed.*

**80c.** Supplementary Return to an Order of the House of the 2nd April, 1913, for a return showing whether the Government cancelled any water lot leases on the Lachine canal and, if so, the date of such cancellation; the names of the lessees; length of time the cancelled leases were in force, and the rental paid in each case; the names of the lessees whose water lot leases on the said canal have not been cancelled, and the rental paid by each; the basis on which rental has been calculated and the method to be followed in future; the reasons why some leases were cancelled and others allowed to remain in force; and if tenders are to be invited through the press for such water lot leases in future. Presented March 13, 1914.—*Mr. Buchanan*.....*Not printed.*

**80d.** Return to an Order of the House of the 23rd March, 1914, for a copy of the agreement for a lease of water power on the Saskatchewan river at Rocky Rapids, Alberta, made with the Edmonton Power Company, with information in detail as to the operations carried on by the company to date. Presented April 21, 1914.—*Mr. Oliver*.....*Not printed.*

**81.** Return to an Order of the House of the 28th April, 1913, for a return showing a list of all the newspapers in Canada in which advertisements have been inserted by the Government, or any minister, officer or department thereof, between October 10, 1911, and the present date, together with a statement of the gross amount paid therefor between the above dates to each of said newspapers or to the proprietors of the same. Presented January 22, 1914.—*Mr. Sinclair*.....*Not printed.*

**81a.** Partial Return to an Order of the House of the 30th April, 1913, for a return showing a list of all newspapers in Canada in which advertisements have been inserted by the Government, or any minister, officer or department thereof, between the 10th day of October, 1906, and 10th October, 1907, and between said dates in each of the years following up to the 10th of October, 1911, together with a statement of the gross amount paid therefor for the years mentioned, to each of the said newspapers or the proprietors of the same. Presented January 22, 1914.—*Mr. Thornton*.....*Not printed.*

## CONTENTS OF VOLUME 28—*Continued.*

**81*b*.** Supplementary Return to an Order of the House of the 30th April, 1913, for a return showing a list of all the newspapers in Canada in which advertisements have been inserted by the Government, or any minister, officer or department thereof, between the 10th day of October, 1906, and 10th October, 1907, and between said dates in each of the years following up to the 10th of October, 1911, together with a statement of the gross amount paid therefor for the years mentioned, to each of the said newspapers or the proprietors of the same. Presented April 1, 1914.—*Mr. Thornton*.....*Not printed.*

**81*c*.** Further Supplementary Return to an Order of the House of the 28th April, 1913, for a return showing a list of all the newspapers in Canada in which advertisements have been inserted by the Government, or any minister, officer or department thereof, between Octoper 10, 1911, and the present date, together with a statement of the gross amount paid therefor between the above dates to each of said newspapers or to the proprietors of the same. Presented April 2, 1914.—*Mr. Sinclair*.....*Not printed.*

**81*d*.** Supplementary Return to an Order of the House of the 30th April, 1913, for a Return showing a list of all the newspapers in Canada in which advertisements have been inserted by the Government, or any minister, officer or department thereof, between the 10th day of October, 1906, and 10th October, 1907, and between said dates in each of the years following up to the 10th of October, 1911; together with a statement of the gross amount paid therefor for the years mentioned, to each of the said newspapers or the proprietors of the same. Presented April 2, 1914.—*Mr. Thornton*....*Not printed.*

**81*e*.** Return to an Order of the House of the 15th April, 1914, for a return showing how much money has been paid by the Government, or any department thereof, since October 10, 1911, to the Herald Publishing Company of Halifax, N.S., for advertising, printing and lithographing. Presented April 27, 1914.—*Mr. Sinclair*.....*Not printed.*

**81*f*.** Return to an Order of the House of the 4th February, 1914, for a return showing the names of all printing and publishing companies, and newspapers in Nova Scotia to whom any sum of money has been paid respectively, by any department of Government, during the calendar years 1912 and 1913 respectively, and the nature of the service rendered therefor. Presented April 29, 1914.—*Mr. Maclean (Halifax)*....*Not printed.*

**81*g*.** Supplementary Return to an Order of the House of the 28th April, 1913, for a return showing a list of all the newspapers in Canada in which advertisements have been inserted by the Government, or any minister, officer or department thereof, between October 10, 1911, and the present date, together with a statement of the gross amount paid therefor between the above dates to each of said newspapers or to the proprietors of the same. Presented May 11, 1914.—*Mr. Sinclair*.....*Not printed.*

**82.** Return to an Order of the House of the 3rd February, 1913, for a copy of all letters, correspondence, reports and other documents in the possession of the Department of Railways and Canals relating to an application by the Central Railway Company of Canada to the Honourable Minister of Railways and Canals for the approval of their proposed route between Hawkesbury and South Indian. Presented January 22, 1914.—*Mr. Proulx* .....*Not printed.*

**83.** Return to an Order of the House of the 9th December, 1912, for a copy of all documents, papers, memoranda, rulings, findings, appeals and correspondence relating to any appeal asserted from any decision, ruling or finding of the Board of Railway Commissioners of Canada to the Privy Council of Canada, and the action taken by the Privy Council thereon. Presented January 22, 1914.—*Mr. Maclean (Halifax)*.....*Not printed.*

**84.** Return to an Order of the House of the 7th May, 1913, for a return showing the total cost of the Elmira Branch Railway in Prince Edward Island; the total amounts paid the contractors, Whitehead Brothers; the total amount paid by the Government after taking the work off the contractor's hands, and showing the amount paid in wages each month, the names of the men to whom it was paid, the positions they held, and the wages per day to each; also showing what materials were used, each kind and class, with the cost of each, from whom purchased, and when, and the quantities left over, if any. Presented January 22, 1914.—*Mr. Hughes (P.E.I.)*.....*Not printed.*

**85.** Return to an Order of the House of the 15th January, 1913, for a copy of all letters, telegrams, correspondence and documents referring in any way to the claim of the municipalities of Pictou, Antigonish, Guysboro and St. Mary's for payment or refund to them of the monies paid by said municipalities for the right of way of that part of the Intercolonial Railway running through the Counties of Pictou, Antigonish and Guysboro. Presented January 22, 1914.—*Mr. Chisholm (Antigonish)*.....*Not printed.*

**85*a*.** Return to an Order of the House of the 12th May, 1913, for a copy of all claims made by H. F. McDougall, of Grand Narrows, N.S., against the Intercolonial Railway, and of all letters, telegrams and other documents in connection with the said claim or claims; together with the particulars of said claims; the amount or amounts paid upon said claim or claims; the particular items of the claim or claims upon which payments, if any, were made; the date of the filing of the claims and of the payment or payments made thereon; and the total amount paid on said claims or upon any other claims made by the said H. F. McDougall against the said Intercolonial Railway or the Government of Canada. Presented January 22, 1914.—*Mr. Sinclair*.....*Not printed.*

## CONTENTS OF VOLUME 28—*Continued.*

**85b.** Return to an Order of the House of the 16th February, 1914, for a copy of all documents, letters, petitions, telegrams and evidence heard, reports, &c., in connection with the claims of Eugene Demers and Joseph Olivier, of the parish of St. Nicholas, County of Lévis, for damages arising out of fires caused by the Intercolonial Railway's locomotives; and, if investigations have been held, a copy of all evidence and documents relating thereto. Presented March 6, 1914.—*Mr. Bourassa*.....*Not printed.*

**85c.** Return to an Order of the House of the 27th April, 1914, for a copy of all letters, telegrams, reports, correspondence and documents relative to the claims made for damages from a fire in the village of Hopewell, County of Pictou, which was occasioned by sparks from a locomotive on the Intercolnial Railway. Presented May 13, 1914.—*Mr. Macdonald* .....*Not printed.*

**86.** Return to an Order of the House of the 14th May, 1913, for a copy of all reports, correspondence and other documents on file in the Department of Raiwlays and Canals, relating in any way to a suggested survey and construction of a line of railways from Country Harbour, Guysborough County, N.S., to Cape George, N.S., or any other point in Antigonish County. Presented January 22, 1914.—*Mr. Chisholm (Antigonish).*
*Not printed.*

**86a.** Return to an Order of the House of the 29th January, 1912, for a copy of all letters, written to the Right Honourable the Prime Minister, the Honourable the Minister of Railways and Canals, or any other member of the Government since October 10, 1911, by S. R. Griffin, Goldboro, N.S., John S. Wells, White Head, N.S., and G. A. R. Rowlings, Sydney, N.S., relating to the construction of a branch line of the Intercolonial Railway into the County of Guysboro, N.S., also of the replies to the same. Presented January 22, 1914.—*Mr. Sinclair*.....*Not printed.*

**87.** Return to an Order of the House of the 27th January, 1913, for a copy of the contract entered into by C. R. Scoles, New Carlisle, Quebec, with the Department of Railways and Canals for the completion of the Atlantic and Lake Superior Railway between Caplin and Paspebiac, and of the report of the engineers on such work, of details of payments, and of all documents bearing on such matter. Presented January 22, 1914. —*Mr. Marcil* .....*Not printed.*

**88.** Return to an Order of the House of the 21st May, 1913, for a copy of all documents, correspondence, reports and inquiries, relating to an accident which occurred at Trois Pistoles, Intercolonial Railway on 10th September, 1912, respecting the death of Arsène Ouellet, and the wounds inflicted on Joseph Gagnon, at the time that these two men were struck by train No. 150 on the above date. Presented January 22, 1914.—*Mr. Boulay* .....*Not printed.*

**89.** Annual Return respecting Trade Unions under Chapter 125, R.S.C., 1906. Presented by Hon. Mr. Coderre, January 22, 1914.....*Not printed.*

**90.** Return to an Order of the House of the 29th January, 1913, for a return showing:—

1. What purchases of land have been made by the Dominion of Canada since Confederation?
2. The amount of money paid for same?
3. The approximate area of land so purchased?
4. In what provinces the said land is now situated?
5. The approximate area in each province?
6. The acreage of school lands set aside by the Government for the Provinces of Manitoba, Saskatchewan and Alberta?
7. The present approximate value of the said school lands so set aside in each of the said Provinces?
8. The number of acres of the said school lands already sold in each of the said Provinces, and the proceeds of such sales, deducting expenses?
9. The acreage of lands set apart at any time by the Government as an endowment to any university, the name of the university, and the Province in which the lands are situated?
10. The number of acres of swamp lands transferred to the Province of Manitoba under the provisions of Chapter 50 of the Acts if 1885 and amendments thereto?
11. The gross amount of cash allowance made at any time by the Federal Government to each or any Province of Canada, to assist in the construction of necessary public buildings?
12. The approximate value of the railway, public works and other assets of each of the Provinces of Canada, taken over by the Federal Government at the time that each Province entered the union?
13. The annual compensation made to the Province of Manitoba, Saskatchewan and Alberta, by reason of the fact that they are deprived of the public lands as a source of revenue?
14. The debt allowance to any time placed to the credit of each of the Provinces of Canada by the Federal Government. Presented January 22, 1914.—*Mr. Sinclair.*
*Not printed.*

## CONTENTS OF VOLUME 28—*Continued.*

**90a.** Supplementary Return to an Order of the House of the 29th January, 1913, for a return showing:—

1. What purchases of land have been made by the Dominion of Canada since Confederation?
2. The amount of money paid for same?
3. The approximate area of land so purchased?
4. In what Provinces the said land is now situated?
5. The approximate area in each Province?
6. The acreage of school lands set aside by the Government for the Provinces of Manitoba, Saskatchewan and Alberta?
7. The present approximate value of the said school lands so set aside in each of the said Provinces?
8. The number of acres of the said school lands already sold in each of the said Provinces, and the vroceeds of such sales, deducting expenses.
9. The acreage of lands set apart at any time by the Government as an endowment to any university, the name of the university, and the Province in which the lands are situated?
10. The number of acres of swamp lands transferred to the Province of Manitoba under the provisions of Chapter 50 of the Acts of 1885 and amendments thereto?
11. The gross amount of cash allowance made at any time by the Federal Government to each or any Province of Canada, to assist in the construction of necessary public buildings?
12. The approximate value of the railway, public works and other assets of each of the Provinces of Canada, taken over by the Federal Government at the time that each Province entered the union?
13. The annual compensation made to the Provinces of Manitoba, Saskatchewan and Alberta, by reason of the fact that they are deprived of the public lands as a source of revenue?
14. The debt allowance to any time placed to the crédit of each of the Provinces of Canada by the Federal Government. Presented March 12, 1914.—*Mr. Sinclair.*
*Not printed.*

**91.** Partial Return to an Order of the House of the 12th May, 1913, for a return showing the names and purposes of the several Commissions created by legislation or Orders in Council since October 12, 1911; the names of the members of the several commissioners, with their respective salaries and remuneration; the names of commissions still in existence; and the names of commissions created since October 12, 1911, which have ceased to exist. Presented January 22, 1914.—*Mr. Oliver*.....*Not printed.*

**91a.** Partial Return to an Address to His Royal Highness the Governor General of the 4th December, 1912, for a copy of each Commission issued by the Government since October 10, 1911, directing an investigation to be held; and also for a copy of the evidence taken and the report made in each case that has been concluded. Presented January 22, 1914.—*Mr. Murphy* .....*Not printed.*

**91b.** Further Supplementary Return to an Address to His Royal Highness the Governor General of the 4th December, 1912, for a copy of each Commission issued by the Government since October 10, 1911, directing an investigation to be held; and also for a copy of the evidence taken and the report made in each case that has been concluded. Presented February 9, 1914.—*Mr. Murphy*.....*Not printed.*

**91c** Return to an Order of the House of the 9th December, 1912, for a return showing the number of Commissions formed by the Government since September 21, 1912, the names and the occupations of the Commissioners appointed, their duties, the duration of their services, and their remuneration. Presented February 12, 1914.—*Mr. Devlin.*
*Not printed.*

**91d.** Return to an Address to His Royal Highness the Governor General of the 9th February, 1914, for a copy of the Order in Council appointing a Commission for the purpose of beautifying the city of Ottawa and vicintiy, of all correspondence with regard to the same, and of all reports made by the commission up to date. Presented March 6, 1914.—*Sir W. Laurier* .....*Not printed.*

**91e.** Supplementary Return to an Order of the House of the 12th May, 1913, for a return showing the names and purposes of the several Commissions created by legislation or Orders in Council since October 12, 1911; the names of the members of the several commissioners, with their respective salaries and remuneration; the names of commissions still in existence; and the names of commissions created since October 12, 1911, which have ceased to exist. Presented March 9, 1914.—*Mr. Oliver*.....*Not printed.*

**91f.** Return to an Order of the House of the 9th February, 1914, for a return showing the number and particulars of Commissions appointed or issued under the Inquiries Act since October 1, 1911, the purpose or object thereof, the name of the Commissioner or Commissioners, and the cost of each to the present time. Presented May 29, 1914.—*Mr. Maclean (Halifax)* .....*Not printed.*

## CONTENTS OF VOLUME 28—*Continued.*

**92.** Partial Return to an Order of the House of the 28th April, 1913, for a return showing all those who have been holding investigations within the judicial district of Three Rivers, since October 15, 1911, to date, in reference to the conduct of men holding offices from the Dominion Government, the place where each investjgation was held, the amount paid to each investigator in each case; the names of the solicitors employed in each case, the post office addresses, and the amount paid in each case to the solicitor. Presented January 22, 1914.—*Mr. Bureau*.....*Not printed.*

**93.** Return to an Order of the House of the 26th March, 1913, for a return showing whether the Government paid or intends to pay fees and disbursements of the witnesses summoned by the commissioners appointed by it in the County of Lévis, to hold inquiries on the conduct of public officers whose dismissal had been requested; the amounts which have been paid and to whom, and the sum remaining to be paid for the same purpose. Presented January 23, 1914.—*Mr. Bourassa*.....*Not printed.*

**93a.** Partial Return to an Order of the House of the 4th June, 1913, for a return showing the total expenditure to date by the present administration in connection with the investigation of charged partisan conduct against officials. Presented January 23, 1914.—*Mr. Sinclair* .....*Not printed.*

**93b.** Partial Return to an Order of the House of the 7th May, 1913, for a return showing in deaail the names of witnesses summoned by Commissioner H. P. Duchemin in connection with all investigations held by him in the counties of North Cape Breton and Victoria, South Cape Breton, Inverness and Antigonish, Nova Scotia, and the amounts paid in each such case. Presented January 23, 1914.—*Mr. Carroll*.....*Not printed.*

**93c.** Return to an Order of the House of the 9th April, 1913, for a return showing in detail the expenditure incurred since October 11, 1911, in connection with investigations held in Bonaventure County by commissioners appointed by the Departments of the Post Office, Customs, and Marine and Fisheries into charges made against employees of said departments of offensive political partisanship, together with the names and amounts paid to each of said commissioners in each investigation, as well as details of amounts paid to witnesses and others. Presented January 23, 1914.—*Mr. Marcil*.....*Not printed.*

**93d.** Return to an Order of the House of the 26th February, 1913, for a copy of all statements of account for salary or remuneration to the commissioner, and his expenses for witness fees, and all other expenses in connectoin with the investigation by Commissioner Duchemin, of the following, persons in the Ciunty of Guysboro, Nova Scotia namely:—

H. L. Tory, fishery officer, Guysboro.
John W. Davis, fishery officer, Guysboro.
Patrick Shea, postmaster, Tompkinsville.
John M. Rogers, postmaster, East Roman Valley.
James Bowles, postmaster, Alder River.
Abner M. Carr, postmaster, St. François Harbour.
Everett Hadley, postmaster, Oyster Ponds.
Parker S. Hart, postmaster, Lower Manchester.
S. M. Ferguson, preventive officer, Oyster Pond.
Robert Hendsbee, postmaster, Half Island Cove.
A. B. Cox, Manager Reduction Works, Canso.
Edward Kelly, engineer, Reduction Works, Canso.
D. S. Hendsbee, weigher, Reduction Works, Canso.
Alex. Roberts, postmaster, Canso.
David Sutherland, caretaker, Canso.
Henry Hanlon, chief engineer, Hatchery, Canso.
Thos. Sullivan, assistant engineer, Canso.
W. G. Matthew, cockswain life-boat, Canso.
Patrick Ryan, assistant cockswain life-boat, Canso.
M. McCutcheon, postmaster, Sonora.
Stanley McCutcheon, preventive officer, Sonora.
Freeman Pride, lightkeeper, Sonora.
David Reid, fishery officer, Port Hilford.
L. M. Pye, customs officer, Liscomb.
Stanley Hemlow, lightkeeper, Liscomb.
W. H. Hemlow, keeper storm drum, Liscomb.
R. Conroy, postmaster, Country Harbour.
John Milward, postmaster, Stormont.
A. W. Salsman, postmaster, Lower Country Harbour.
W. B. Harris, postmaster, Whitehead.
E. L. Munro, customs officer, Whitehead.
W. L. Munro, lightkeeper, Whitehead.
Patrick Conway, lightkeeper, Whitehead
H. P. Munro, cockswain life-boat, Whitehead.
Levi Munro, harbour master, Whitehead.
William McKinnon, postmaster, Erinville.

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J. H. McMillan, manager hatchery, Isaac's Harbour.
Sanford Langley, postmaster, Isaac's Harbour North.
Fred. E. Cox, engineer lobster hatchery, Isaac's Harbour.
Simon Hodgson, assistant engineer, Isaac's Harbour.
Archibald Brass, postmaster, L. New Harbour.
Parker Sangster, postmaster, New Harbour West.
William Gerrior, customs officer, Larry's River.
James M. Webber, lightkeeper, Torbay Point.
W. A. Hattie, preventive officer, Mulgrave.
J. F. Reeves, postmaster, Mulgrave.
John P. Meagher, foreman deck-hand, Mulgrave.
Philip H. Ryan, Intercolonial Railway employee, Mulgrave.
Alex. Wilkinson, Intercolonial Railway employee, Mulgrave.
Alex. McInnis, car inspector, Mulgrave.
Frank Feugere, postmaster, Port Felix.
Sam. Smith, postmaster, Port Felix, West.
Captain Freeman Myers, postmaster, Cole Harbour.
George Taylor, postmaster, Beckerton.
Stephen C. Richard, lightkeeper, Charlo's Cove. Presented January 26, 1914.—*Mr. Sinclair* ..... *Not printed.*

**93e.** Supplementary Return to an Order of the House of the 7th May, 1913, for a return showing in detail the names of witnesses summoned by Commissioner H P. Duchemin in connection with all investigations held by him in the Counties of North Cape Breton and Victoria, South Cape Breton, Inverness and Antigonish, Nova Scotia, and the amounts paid in each such case. Presented February 10, 1914.—*Mr. Carroll*..... *Not printed.*

**93f.** Return to an Order of the House of the 9th December, 1912, for a return showing when H. P. Duchemin, of Sydney, Nova Scotia, was appointed commissioner to hold investigations, the number of investigations held since his appointment, names of officials investigated, if evidence and report in each investigation has been forwarded by Mr. Duchemin to the department interested, if not, in what cases has no evidence and report been submitted, salary or remuneration received in each case, and amount paid for travelling expenses in each case. Presented February 10, 1914.—*Mr. Carroll.*
*Not printed.*

**93g.** Return to an Order of the House of the 23rd February, 1914, for a return showing the expenditures by the Intercolonial Railway in connection with all the inquiries and investigations held by H. P. Duchemin, concerning any and all employees of the Department of Railways and Canals, or of the Intercolonail Railway, for any cause whatever, and relating to any complaints or charges, or to any matter of whatsoever nature, giving in detail the items of all accounts or bills of or payments to the said H. P. Duchemin in connection with same, during the years 1912, 1913, and for the year 1914 to date; together with a statement showing the total amounts paid in each specified investigation and the total paid in each year, for the whole period to the said H. P. Duchemin. Presented March 5, 1914.—*Mr. Emmerson*..... *Not printed.*

**93h.** Supplementary Return to an Order of the House of the 7th May, 1913, for a return showing indetail the names of witnesses summoned by Commissioner H. P. Duchemin in connection with all investigations held by him in the Counties of North Cape Breton and Victoria, South Cape Breton, Inverness and Antigonish, Nova Scotia, and the amounts paid in each such case. Presented March 17, 1914.—*Mr. Carroll*..... *Not printed.*

**93i.** Return to an Order of the House of the 23rd March, 1914, for a return showing in detail the expenses and cost of an inquiry or investigation held by Commissioner Adair, under the authority of the Department of Railways and Canals, into the affairs of the Electrical Branch of the Intercolonial Railway at Moncton, and the conduct of John W. Gaskin and others, in relation to their services in said branch or otherwise, held during the year 1912; together with the names of the commissioner, the agents, attorneys, counsel, constables, police officers, detectives, witnesses or other persons in connection with said inquiry; the number of days consumed and paid for in the conduct thereof, and the services rendered by each person in connection therewith; and a detailed statement of the sum or sums of money paid to each party therefor, at what rate and the amounts paid to each witness sworn and in attendance or otherwise, together with a copy of all bills, claims or accounts rendered in connection with said inquiry, and of all vouchers for moneys paid, by whom paid and to whom; with a copy of all letters or other correspondence relating to the appointment of a commissioner, and of counsel to be engaged or other officers employed, and relating to the compensation to be paid for services, and in connection with any of said bills, accounts, payments and vouchers, with a statement or summary of the total cost of said investigation, showing the number of railway employees called as witnesses, the witness fees allowed and paid them, and the cases in which their time respectively was not allowed them while absent to give such evidence, and the cases to which such time was allowed and no deduction made from their wages or salaries for the period of their absence in attendance at such inquiry as such witnesses respectively. Presented May 13, 1914.—*Mr. Emmerson*....*Not printed.*

## CONTENTS OF VOLUME 28—*Continued.*

**94.** Return to an Order of the House of the 9th December, 1912, for a return showing how many citizens of the United States have been employed by the Government since November 1, 1911, in what department employed, their names and occupations and salary paid to each, and also, the number appointed under section 21 of the Civil Service Act. Presented January 24, 1914.—*Mr. Murphy*.....*Not printed.*

**95.** Return to an Order of the House of the 23rd April, 1913, for a copy of all letters, telegrams, papers and documents in any way relating to the purchase of property at Long Beach St. Mary's, Digby County, N.S., for a lobster pond. Presented January 23, 1914.—*Mr. Law*.....*Not printed.*

**96.** Return to an Order of the House of the 24th February, 1913, for a copy of all requests, petitions, &c., made to the Government, or any department thereof, by the residents of Mira, County of Cape Breton, for subsidies for boats, wharf accommodations, or increased facilities on the Mira river. Presented January 23, 1914.—*Mr. Carroll.* *Not printed.*

**97.** Return to an Order of the House of the 7th May, 1913, for a copy of all reports, correspondence, telegrams and other documents in the custody or control of the Militia Department or the Railway Department, concerning matters brought to the attention of the Militia Department by B. A. Ingraham, of Sydney, N.S., with reference to the transportation of the Sydney militia over the Intercolonial Railway in the year 1912. Presented January 23, 1914.—*Mr. Carroll*.....*Not printed.*

**98.** Medical inspection of immigrants at port of entry in Canada.—(*Senate*.....*Not printed.*

**99.** Public health service, several branches of R.S. engaged in.—(*Senate*).....*Not printed.*

**100.** Proposed harbour at Skinner's Pond—Surveys made for, &c.—(*Senate*).....*Not printed.*

**101.** Investigation held in 1912 *re* dredging operations in British Columbia.—(*Senate*). *Not printed.*

**101*a*.** Investigation held by Mr. Wilson, B.C., against Captain Murdock Young.—(*Senate*). *Not printed.*

**102.** Quantities of wheat by grades received at elevators at Fort William.—(*Senate*). *Not printed.*

**103.** Projected railway or highway bridge over the Restigouche River, N.B. Presented January 26, 1914.—*Mr. Marcil*.....*Not printed.*

**104.** Relating to the employees of the different departments at Ottawa, the provinces, and territories, &c. Presented January 26, 1914.—*Mr. Wilson (Laval)*.....*Not printed.*

**104*a*.** Return to an Order of the House of the 11th December, 1912, for a return showing for each department of the Civil Service, the names, ages, offices and salaries of such persons employed either in the inside or outside divisions thereof, and of such persons not in the Civil Service employed by the Government in any department since the 10th October, 1911; and in cases where no commission of investigation was appointed, as have been removed from office by dismissal, superannuation or otherwise, specifying in each case the manner of, and grounds for such removal, and the length of notice given to the person removed, and the amount of superannuation or gratuity granted, if any; also showing the name, age, office and salary or remuneration of any and every person appointed to the Civil Service in the place of, or as a consequence of any such removal. Presented January 26, 1914.—*Mr. Murphy*.....*Not printed.*

**104*b*.** Partial Return to an Order of the House of the 11th December, 1912, for a return showing for each department of the Civil Service, the names, ages, offices and salaries of such persons employed either in the inside or outside divisions thereof, and of such persons not in the Civil Service employed by the Government in any department since the 10th October, 1911; and in cases where no commission of investigaiton was appointed, as have been removed from office by dismissal, superannuation or otherwise, specifying in each case the manner of, and grounds for such removal, and the length of notice given to the person removed, and the amount of superannuation or gratuity granted, if any; also showing the name, age, office and salary or remuneration of any and every person appointed to the Civil Service in the place of, or as a consequence of any such removal. Presented February 10, 1914.—*Mr. Murphy*.....*Not printed.*

**104*c*.** Further Supplementary Return to an Order of the House of the 11th December, 1912, for a return showing for each department of the Civil Service, the names, ages, offices and salaries of such persons employed either in the inside or outside divisions thereof, and of such persons not in the Civil Service employed by the Government in any department since the 10th October, 1911; and in cases where no commission of investigation was appointed, as have been removed from office by dismissal, superannuation or otherwise, specifying in each case the manner of, and grounds for such removal, and the length of notice given to the person removed, and the amount of superannuation or gratuity granted, if any; also showing the name, age, office and salary or remuneration of any and every person appointed to the Civil Service in the place of, or as a consequence of any such removal. Presented March 10, 1914.—*Mr. Murphy*.....*Not printed.*

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**104*d*.** Return to an Order of the House of the 23rd February, 1914, for a return showing the total number of officials and employees in the Department of Public Printing and Stationery on February 1, 1914; and the increase in wages granted to the several groups of employees during the year 1913. Presented March 18, 1914.—*Mr. Murphy.* *Not printed.*

**104*e*.** Return to an Order of the House of the 23rd February, 1914, for a return showing how many persons have been appointed to positions in the inside Civil Service since October 10, 1911, who had not passed the public competitive examination held by the Civil Service Commission in May and November of each year.

2. How many of such persons were appointed in each department. Presented March 23, 1914.—*Mr. Murphy*.....*Not printed.*

**104*f*.** Return to an order of the House of the 4th March, 1914, for a return showing how many persons have been appointed to the Inside Service of the Post Office Department by the present Government, with the names of the appointees, the grade each of them was appointed to, and the salary in each case; how many of these appointees passed the Civil Service examination, and how many did not do so, with the names in each case. Presented April 1, 1914.—*Mr. Proulx*.....*Not printed.*

**104*g*.** Further Supplementary Return to an Order of the House of 11th December, 1912, for a return showing for each department of the Civil Service, the names, ages, offices and salaries of such persons employed either in the inside or outside divisions thereof, and of such persons not in the Civil Service employed by the Government in any department since the 10th October, 1911; and in cases where no commission of investigation was appointed, as have been removed from office by dismissal, superannuation or otherwise, specifying in each case the manner of, and grounds for such removal, and the length of notice given to the person removed, and the amount of superannuation or gratuity granted, if any; also showing the name, age, office and salary or remuneration of any and every person appointed to the Civil Service in the place of, or as a consequence of any such removal. Presented April 2, 1914.—*Mr. Murphy*.....*Not printed.*

**104*h*.** Return to an Order of the House of the 2nd April, 1914, for a return showing how mnay certificates for promotion have been asked from the Civil Service Commissioners since the 31st March, 1913; how many of such certificates have been refused, and to whom, and the reasons given in each case for such refusal. Presented April 16, 1914.—*Mr Carroll* .....*Not printed.*

**104*i*.** Return to an Order of the House of the 30th March, 1914, for a return showing the salary of each deputy minister; the number of clerks or employees under each of the deputy ministers, or over whose work the deputy is supposed to exercise supervision; the salary of the Customs Commissioner, and length of time employed. Presented April 23, 1914. —*Mr. Chisholm (Inverness)* .....*Not printed.*

**105.** Return called for by Section 88, of Chapter 62, Revised Statutes of Canada, requiring that the Minister of the Interior shall lay before Parliament, each year, a return of liquor brought from any place out of Canada into the Territories by special permission in writing of the Commissioner of the Northwest Territories. Presented by Hon. Mr. Roche, January 27, 1914 .....*Not printed.*

**106.** Copy of the Seventh Joint Report of the Commissioners for the Demarcation of the Meridian of the 141st Degree of West Longitude. Presented by Hon. Mr. Roche, January 28, 1913.....*Not printed.*

**107.** Return showing lands sold by the Canadian Pacific Railway Company during the year which ended on the 1st October, 1913. Presented by Hon. Mr. Roche, January 28, 1914. *Not printed.*

**108.** Regulations relating to the Parcel Post Service, 1914. Presented by Hon. Mr. Pelletier, January 28, 1914.....*Not printed.*

**109.** Report of the proceedings of the Commisioners of Internal Economy of the House of Commons for 1912-1913, pursuant to Rule 9. Presented by Mis Honour the Speaker, February 2, 1913 .....*Not printed.*

**110.** Return of Orders in Council which have been published in the *Canada Gazette* between the 1st October, 1912, and 30th November, 1913, in accordance with the provisions of "The Forest Reserves and Park Act," Section 19, of Chapter 10, 1-2 George V. Presented by Hon. Mr. Roche, February 2, 1914.....*Not printed.*

**110*a*.** Return of Orders in Council which have been published in the *Canada Gazette*, between the 1st October, 1912, and 30th November, 1913, in accordance with the provisions of Section 5 of "The Dominion Lands Survey Act," Chapter 21, 7-8 Edward VII. *Not printed.*

**110*b*.** Return of Orders in Council which have been published in the *Canada Gazette*, between 1st October, 1912, and 30th Novēmber, 1913, in accordance with the provisions of Section 77 of "The Dominion Lands Act," Chapter 20 of the Statutes of Canada, 1908. *Not printed.*

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**110***c*. Return of Orders in Council which have been published in the *Canada Gazette* and in the British Columbia *Gazette*, between 1st October, 1912, and 30th November, 1913, in accordance with provisions of subsection (*d*) of Section 38 of the regulations for the survey, administration, disposal and management of Dominion lands within the 40-mile railway belt in the Province of British Columbia. Presented by Hon. Mr. Roche, February 2, 1914.....*Not printed.*

**110***d*. Return of copies of all Orders in Council, plans, papers and correspondence which are required to be presented to the House of Commons, under a resolution passed on the 20th February, 1882, since the date of the last return, under such resolution. Presented by Hon. Mr. Roche, January 28, 1914.....*Not printed.*

**110***e*. Return to an Order of the House of the 9th February, 1914, for a copy of all letters, papers, homestead inspector's reports, declarations and of all other documents connected in any way with the entry and cancellation proceedings against the homestead entry of James Bruce for the southeast quarter section 36, in townshpi 49, range 27, West second meridian. Presented March 6, 1914.—*Mr. Neely*.....*Not printed.*

**110***f*. Return to an Order of the House of the 9th February, 1914, for a copy of all papers in connection with the disposition of the S.E. ¼, section 16, township 25, range 5, West fifth meridian. Presented March 10, 1914.—*Mr. Oliver*.....*Not printed.*

**110***g*. Return to an Order of the House of the 16th February, 1914, for a copy of all papers in connection with the S.W. ¼, 23-16-12 W, 3 M. Presented March 10, 1914.—*Mr. Knowles* .....*Not printed.*

**110***h*. Return to an Order of the House of the 16th February, 1914, for a copy of all papers in connection with the N.E. ¼-22-11-5-W. 3 M. Presented March 23, 1914.—*Mr. Knowles.* *Not printed.*

**110***i*. Return to an Order of the House of the 2nd February, 1914, for a copy of all letters, telegrams and papers concerning coal lands situate in 28-19, 27-18, 27-17 and 28-18 West of the fourth meridian. Presented April 21, 1914.—*Mr. Buchanan*.....*Not printed.*

**110***j*. Supplementary Return to an Order of the House of the 16th February, 1914, for a copy of all papers in connection with the N.E. ¼-22-11-5 W. 3 M. Presented May 5, 1914.—*Mr. Knowles* .....*Not printed.*

**110***k*. Return to an Address to His Royal Highness the Governor General of the 20th April, 1914, for a copy of all documents, letters, telegrams, papers, Orders in Council and agreements of sale, in connection with the sale by the Government of Canada of the following lands in the railway belt in British Columbia, viz.: Townships 23 and 24, range 18; townships 23 and 24, range 19; townships 24 and 25, range 20; townships 25, 26 and 27, range 21; townships 26 and 27, range 22, all West of the fifth meridian. Presented May 18, 1914.—*Mr. Buchanan*.....*Not printed.*

**110***l*. Return to an Order of the House of the 27th April, 1914, for a copy of all letters, telegrams, &c., in the Department of the Interior in connection with the N.W. ¼ section 20-4, range 16 west of the second meridian. Presented May 18, 1914.—*Mr. Turriff.* *Not printed.*

**110***m*. Return to an Order of the House of the 27th April, 1914, for a copy of all papers, letters, telegrams, &c., in possession of the Department of the Interior in connection with the N-½-1-3-16-W. 2-M. Presented May 18, 1914.—*Mr. Turriff*.....*Not printed.*

**111**. Correspondence between the Imperial Government and the Government of Canada, and other documents, relating to Imperial Naturalization. Presented by Hon. Mr. Doherty, February 4, 1914 .....*Not printed.*

**111***a*. Return to an Oder of the House of the 2nd February, 1914, for a copy of all correspondence and documents, or other information, as to the passage of an Act in Great Britain and the different Dominions, providing for uniformity of the Naturalization Law. Presented February 18, 1914.—*Mr. Macdonald* .....*Not printed.*

**112**. Account of the average number of men employed on the Dominion Police Force during each month of the year 1913, and of their pay and travelling expenses, pursuant to Chapter 92, section 6, subsection 2, of the Revised Statutes of Canada. Presented by Hon. Mr. Doherty, February 5, 1914.....*Not printed.*

**113**. Copy of Agreement between the Government of Canada and the Royal Mail Steam Packet Company, for a steamship service between Canada and the British West Indies. Presented by Hon. Mr. Foster, February 9, 1914.....*Not printed.*

**114**. Return to an Order of the House of the 2nd February, 1914, for a return showing what changes have been made in the original scheme for terminals of the Transcontinental Railway at the city of Quebec; the estimated cost of the former; the estimated cost of the said terminals under the present scheme. Presented February 10, 1914.—*Mr. Graham* .....*Not printed.*

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**114***a*. Return to an Address to His Royal Highness the Governor General of the 23rd February, 1914, for a copy of all correspondence between the National Transcontinental Railway Commissioner and the Minister of Railways, and between the National Transcontinental Railway Commissioner and the Canadian Pacific Railway regarding the Joint Terminals at Quebec; also a copy of the Order in Council regarding joint terminals at Quebec, and of the final agreement regarding same. Presented March 16, 1914.—*Mr. Graham.* *Not printed.*

**114***b*. Return to an Order of the House of the 16th March, 1914, for a copy of all contracts by the Department of Railways or the Transcontinental Railway Commission with the Canadian Pacific Railway Company with regard to the establishment of a joint station at the Palais, city of Quebec, and of all correspondence with regard to the same. Presented March 20, 1914.—*Sir Wilfrid Laurier*.....*Not printed.*

**115.** Return to an Order of the House of the 9th December, 1912, for a return showing the number of commissioners appointed by the Government since October 10, 1911, to hold investigations, giving their names, the amount paid to each commissioner up to November 21, 1912, the number of the said commissioners still under pay, with their names. Presented February 10, 1914.—*Mr. Murphy*.....*Not printed.*

**116.** Return to an Order of the House of the 31st March, 1913, for a copy of all papers, documents, correspondence, &c., relating to requests for the temporary suspension of the application of the dumping clause of the Customs Tariff Act in reference to wire rods or any other products or articles, made to Department of Customs, or the Department of Finance, since November 1, 1911. Presented February 10, 1914.—*Mr. Maclean (Halifax)* .....*Not printed.*

**117.** Return to an Order of the House of the 20th January, 1913, for a copy of all proposals, offers, agreements, reports, estimates, letters, telegrams and of all other communications or documents in the possession of the Department of Railways and Canals, or of the Prime Minister of Canada, or of any other department of the Government, filed with said department or any of them, since the first day of January, 1910, relating to or in any way appertaining to the question or proposal of acquiring any or all, or any one of the lines of railways connecting with the Intercolonial Railway along its line, and serving as a feeder or feeders of said railway, either by lease, purchase or otherwise, also of all proposals, offers, requests, applications, petitions, memorials, or other documents, and of all letters, telegrams and other communications and correspondence, relating to or in any manner appertaining to the acquisition by any Railway company of running rights, so called, or the securing of a leasehold or other interest involving the rights by any Railway company to operate its trains over the rails of the Intercolonial Railway, together with a copy of all answers, letters, telegrams, correspondence and reports relating thereto, on the files of the Department of Railways and Canals, or of the Prime Minister, or of any Department of the Government. Presented February 10 1914.—*Mr. Emmerson* .....*Not printed.*

**117***a*. Return to an Order of the House of the 2nd February, 1914, for a copy of all correspondence, memorials, petitions, engineers' reports and other documents exchanged by or on behalf of the proprietors of the Quebec Oriental Railway and the Atlantic, Quebec and Western Railway, and the Department of Railways and Canals, since last session, with the view of the acquisition by the Government of these roads as branch lines or feeders of the Intercolonial Railway. Presented March 6, 1914.—*Mr. Marcil (Bonaventure).* *Not printed.*

**117***b*. Return to an Order of the House of the 9th February, 1914, for a copy of all letters, telegrams, petitions, reports, correspondence and other documents on file in any Department of the Government, or in the possession of any member of the Government, relating to, or in any manner connected with, the proposal to have a spur line or siding to connect the new public wharf at Sackville, N.B., with the Intercolonial Railway at that place, and of all letters, telegrams and other correspondence passed between any person or persons and any member of the Government. Presented March 11, 1914.—*Mr. Emmerson* .....*Not printed.*

**117***c*. Return to an Order of the House of December 9, 1912, for a copy of the report made by Mr. Tessier to the Department of Railways and Canals on a proposed line of railway from Orangedale to Cheticamp in the County of Inverness, N.S.; and also all petitions, memorials and correspondence referring to the proposed line of railway. Presented March 17, 1914.—*Mr. Chisholm (Antigonish)*.....*Not printed.*

**117***d*. Return to an Order of the House of the 23rd March, 1914, for a copy of all petitions, correspondence, engineers' reports of surveys and of all other reports on file, referring to a proposed diversion of the Intercolonial Railway from, at or near Linwood Station, through the districts of Linwood, Cape Jack and to village of Harbour au Bouché; and more particularly of the petitions and reports relating to such diversion filed in or about the years 1887 and 1891. Presented April 7, 1914.—*Mr. Chisholm (Antigonish).* *Not printed.*

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**117e.** Return to an Order of the House of the 23rd March, 1914, for a return showing the names of the successful contractors, with the particulars of their schedule prices respectively, on the contracts awarded by the Intercolonial Railway for the work of double tracking from Chaudiere Curve to St. Romuald, Quebec, and the division line from Nelson to Derby Junction, New Brunswick, and the division or spur line from North Sidney to Leitche's Creek, Nova Scotia, with a copy of the reports, correspondence and recommendations relating to the awarding of said tenders or contracts respectively, and also showing the estimate of cost of said works respectively. Presented April 15, 1914.—*Mr. Emmerson* ..... *Not printed.*

**117f.** Return to an Order of the House of the 16th March, 1914, for a copy of all memoranda, instructions and authorizations issued by the Minister of Railways and Canals since October 11, 1911, relating to the eliminating of the present grades and replacing the light bridges with heavier steel structure on the Intercolonial Railway; and of all memoranda, recommendations and reports made by Mr. F. P. Gutelius or the Board of Management of the Intercolonial Railway thereon. Presented May 6, 1914.—*Mr. Kyte.*
*Not printed.*

**118.** Memorandum of special claim on behalf of Prince Edward Island in respect to representation in the House of Commons. Presented by Hon. Mr. Foster, February 10, 1914.
*Printed for distribution and sessional papers.*

**118a.** Memorandum on behalf of Nova Scotia, New Brunswick and Prince Edward Island, claiming the right to have their original representation in the House of Commons restored. Presented by Hon. Mr. Foster, February 10, 1914.
*Printed for distribution and sessional papers.*

**119.** Copy of the proceedings and resolutions adopted at the last Interprovincial Conference. Presented by Hon. Mr. Foster, February 10, 1914.
*Printed for distribution and sessional papers.*

**119a.** Minutes of the Proceedings in Conference of the representatives of the Provinces, October, 1913. Presented by Hon. Mr. Borden, March 11, 1914..... *Not printed.*

**120.** Return to an Order of the House of the 2nd June, 1913, for a copy of the application of Pacifique Leroux for damages sustained by removal of a bridge on the Soulanges Canal, and of all reports and correspondence on the same. Presented February 12, 1914.—*Sir Wilfrid Laurier* ..... *Not printed.*

**121.** Return to an Order of the House of the 20th January, 1913, for a copy of all plans, proposals, diagrams, specifications, reports, surveys, requests, correspondence, letters, telegrams and of all other communications and documents in possession of the Department of Railways and Canals, relating or in any wise appertaining to the proposed steam ferry service for all seasons of the year between the mainland of New Brunswick, or of Nova Scotia, and Prince Edward Island, whereby a connection could be made between the Intercolonial Railway and the Prince Edward Island Railway, by the transfer of railway cars over and across the waters of the Straits of Northumberland by means of said proposed ferry, together with a statement of all estimates and figures as to the total cost of the installation of such ferry, and the items of said estimate or estimates in detail. Presented February 12, 1914.—*Mr. Emmerson*..... *Not printed.*

**121a.** Return to an Order of the House of the 11th December, 1912, for a copy of all letters, telegrams and other documents relative to the establishment of a car ferry between Prince Edward Island and the mainland, of the report or reports of any engineers or experts in regard to the said proposal, and of their estimates of the cost thereof, the advertisement calling for tenders therefor, and a copy of any plans, conditions or proposed specifications therefor, or in regard thereto, and of any tenders received in response to said advertisement, of the reports, if any, of any officials in regard thereto, and of all data in possession of the Department in respect of said project. Presented February 12, 1914.—*Mr. Macdonald*..... *Not printed.*

**122.** Return to an Order of the House of the 2nd February, 1914, for a return showing the total amount of liability in the form of temporary loans on the last day of each month during the period between the 1st day of May, 1913, and December 31, 1913, together with, in each case, the rate of interest paid upon said amounts during the same periods. Presented February 12, 1914.—*Mr. Maclean (Halifax)*..... *Not printed.*

**123.** Report of the Royal Commission appointed to investigate the construction of the National Transcontinental Railway, together with the evidence taken and exhibits filed before the said commission. Presented by Hon. Mr. Cochrane, February 12, 1914.
*Printed for distribution and sessional papers.*

**123a.** Return to an Order of the House of the 23rd February, 1914, for a copy of the assignment by M. P. and J. T. Davis in September, 1909, of contracts numbers 16 and 17 on the National Transcontinental Railway to O'Brien, Fowler and McDougall, and of the Transcontinental Commissioner's approval thereof, in the said month of September, 1909. Presented March 4, 1914.—*Mr. Graham*..... *Not printed.*

## CONTENTS OF VOLUME 28—*Continued.*

**123b.** Return to an Order of the House of the 18th February, 1914, for a copy of the contract with Mr. Joseph Gosselin for the locomotive and car shops at St. Malo, and of all telegrams, letters and correspondence between the Department and Mr. W. J. Press, mechanical engineer, or the chief engineer, with regard to change of the price of 85 cents per cubic yard for common excavation to the price of $2.30 per cubic yard for frozen earth. Presented March 11, 1914.—*Mr. Graham*.....*Not printed.*

**123c.** Return to an Address to His Royal Highness the Governor General of the 16th February, 1914, for a copy of all papers in any way relating to the tender, original contract, and amended contract of Mr. Joseph Gosselin for the locomotive and car shops at St. Malo, Quebec, together with a copy of the advertisements for tenders, the specifications, the contract, the amended contract, reports of engineers, recommendations to Council, Orders in Council, letters, telegrams, minutes or reports of interviews, and of all other documents referring in any way to the said contract or the amendment thereof. Presented March 11, 1914.—*Mr. Graham*.....*Not printed.*

**123d.** Return to an Address to His Royal Highness the Governor General of the 23rd February, 1914, for a copy of all correspondence in connection with the appointment of Messrs. Lynch-Staunton and Gutelius as commissioners to investigate the cost of construction of the Eastern division of the National Transcontinental Railway, and also of the Order in Council appointing them. Presented March 12, 1914.—*Mr. Graham.*
*Not printed.*

**123e.** Return to an Order of the House of the 23rd February, 1914, for a copy of the report of Geo. S. Hodgins. of New York, regarding the Transcona shops of the Transcontinental Railway, dated June 10, 1912. Presented March 19, 1914.—*Mr. Graham*..*Not printed.*

**123f.** Return to an Order of the House of the 23rd March, 1914, for a copy of all plans and profiles designed by the engineers, in connection with the intended construction of the Transcontinental Railway from a point called Ste. Claire, County of Dorchester, between the twentieth and thirtieth miles, east of the Quebec Bridge, going through the parishes of St. Malachie, Standon, Cranbourne , Ste. Germaine and Ste. Justine, passing through the townships of Panet, Rolette and Valois, towards Ste. Perpetue, on the 105th mile east of the Quebec bridge, and of all the information and reports on the nature of land, timber and minerals of the places through which the engineers have been, showing also how much the railway would have cost per mile had it been built in that part of the country. Presented April 7, 1914.—*Mr. Sevigny*.....*Not printed.*

**123g.** Return to an Order of the House of the 23rd March, 1914, for a copy of all correspondence, messages, petitions, and other documents in connection with the choice of a site intended for the construction of a station at the village of St. Eleuthere, on the National Transcontinental Railway. Presented April 15, 1914.—*Mr. Lapointe (Kamouraska)* .....*Not printed.*

**123h.** Return to an Order of the House for a return showing.—

1. What kind of coaling plants have been provided on the National Transcontinental Railway?
2. How many have been provided?
3. Where they have been constructed?
4. If any tenders were called for them?
5. The name and address of the lowest tenderer.
6. From whom they were obtained and at what price? Presented April 15, 1914. —*Mr. Macdonald* .....*Not printed.*

**124.** Return to an Address to His Royal Highness the Governor General, of the 2nd February, 1914, for a copy of all decisions of the Board of Railway Commisioners made on or after the 10th of October, 1911, on which appeals have been taken to the Governor in Council, and of all decisions given by the Governor in Council on such appeals. Presented February 13, 1914.—*Mr. Sinclair*.....*Not printed.*

**125.** Return to an Order of the House of the 2nd February, 1914, for a copy of all rules and regulations made and passed by the Board, with the approval of the Minister, under the provisions of the Intercolonial and Prince Edward Island Railways Employees' Provident Fund Act, pursuant to section eight of said Act. Presented February 13, 1914.—*Mr. Emmerson* .....*Not printed.*

**125a.** Return to an Order of the House of the 2nd February, 1914, for a return showing in detail the transactions and proceedings of the so-called Provident Fund Board from the 1st day of January, A.D., 1912, to date, with the names of applicants and their addresses and the nature of their employment, for retirement under the provisions of The Intercolonial and Prince Edward Island Railways Employees' Provident Fund Act, and a statement of the names so retired during that period, showing the amount of their respective retiring allowances, their respective terms of service, their respective ages, and the total of the fixed yearly charges upon the said fund made thereby; together

## CONTENTS OF VOLUME 28—*Continued.*

with a copy of all correspondence, letters, documents and other communications relating to such applications and retirements on file in the Railway Department either at Moncton or at Ottawa, and of all correspondence, letters, petitions or other communications addressed to and received by the Minister of Railways and Canals, the Department, or any official thereof, or any member of the Government from any member of Parliament, or other person charged with the responsibility of directing Government or railway patronage, or from any person or persons, club or association assuming to advise or direct with respect to any such patronage, and of all replies made to any such letters, petitions or other communications. Presented March 3, 1914.—*Mr. Emmerson* ..... *Not printed.*

**126.** Return to an Order of the House of the 2nd February, 1914, for a return showing the amounts of receipts and expenditures on the Intercolonial Railway during the months of April, May and June, of 1913, respectively, giving separately the revenue from passenger trains, freight traffic, mails and express and miscellaneous revenue, respectively, with the total thereof during that period; also the same information respecting the corresponding months of 1912, with the total thereof for that period. Also a statement showing the working expenses or expenditure during months of April, May and June of 1913, respectively, giving separately the working expenses or expenditure on maintenance of way and structures, maintenance of equipment, traffic expenses, transportation expenses and general expenses; with the total thereof during that period; and also the same information respecting the corresponding months of 1912, with the total thereof for the same period; also a statement showing the cost of transporting freight per ton mile during the period named in the years 1912 and 1913. Presented February 13, 1914.—*Mr. Emmerson* ..... *Not printed.*

**126*a*.** Return to an Order of the House of the 4th March, 1914, for a return showing the total revenue of the Intercolonial Railway during the fiscal year 1912-1913, and the revenue from Campbellton and all stations east of Campbellton, and from those west thereof as far as Halifax, on the main line, including the branches east of Campbellton, Prince Edward Island Railway excluded. Presented March 17, 1914.—*Mr. Boulay.*
*Not printed.*

**126*b*.** Return to an Order of the House of the 2nd February, 1914, for a return showing the total earnings of the Intercolonial Railway on Division 3 in connection with passenger traffic for the calendar years 1910, 1911, 1912 and 1913 respectively, and the monthly passenger traffic earnings for each of the said years; the total expenses or expenditures connected with the said passenger traffic on said division during the said years respectively; together with a statement showing the monthly passenger traffic expenses or expenditures connected with said passenger traffic for each of the months during the said years; and showing, in addition, the loss and surplus for each of said years and the months thereof respectively, in connection with the passenger traffic on said division 3 between St. John and Halifax; also a statement of the revenue and expenditures on the transactions connected with said passenger traffic over said division during the months of December, 1913, and January, 1914, separately; and also a statement showing the gross passenger earnings for December, 1912, and January, 1914, respectively, and the gross expenditures with the passenger traffic for the said months respectively; together with a copy of all reports, returns, letters and correspondence relating to the earnings, expenditures or losses or surpluses on said division either in connection with freight or passenger traffic. Presented April 7, 1914.—*Mr. Emmerson*.... *Not printed.*

**127.** Return to an Order of the House of the 2nd February, 1914, for a return showing the names of the employees of all kinds on the Soulanges Canal in the section extending from the foot of the canal to the first bridge; with the functions of each of them, the salary thereto attached and the date of their hiring during the season of navigation. Presented February 13, 1914.—*Mr. Boyer* ..... *Not printed.*

**128.** Return to an Order of the House of the 3rd February, 1914, for a return showing:—

1. The names of all persons from whom land or property has been expropriated for right of way and station purposes in connection with the Dartmouth to Dean Settlement Branch of the Intercolonial Railway of Canada.
2. The quantity of land or property so expropriated.
3. The amount paid or offered to such person or persons for such land or property, in cases where payment or an offer has been made. Presented February 13, 1914.—*Mr. Maclean (Halifax)* ..... *Not printed.*

**129.** Copy of the International Convention for the safety of human life at sea. Presented by Hon. Mr. Hazen, February 16, 1914..... *Printed for distribution and sessional papers.*

**129*a*.** Return to an Address to His Royal Highness the Governor General of the 2nd February, 1914, for a copy of all correspondence with the Imperial authorities, or any commercial bodies, on the subject of Safety of Life at Sea; and of the Order in Council appointing representatives of Canada on the International Conference on Safety of Life at Sea. Presented February 20, 1914.—*Sir Wilfrid Laurier*..... *Not printed.*

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**130.** Return to an Order of the House of the 9th February, 1914, for a copy of all accounts, bills, receipts and vouchers in connection with the services of N. W. White, during 1912 and 1913, as commissioner to inquire into Indian lands in the Province of British Columbia. Presented February 17, 1914.—*Mr. Maclean (Halifax)*.....*Not printed.*

**131.** Return to an Order of the House of the 2nd February, 1914, for a copy of all documents whatsoever relating to the investigation of a claim of Jean Ross or Joseph Ross, of Anqui, County of Rimouski, Province of Quebec, against the Intercolonial Railway, following an accident to a horse, which occurred on the 10th of December, 1906. Presented February 17, 1914.—*Mr. Boulay*.....*Not printed.*

**132.** Copy of the Order in Council appointing a commission to investigate the cost of living. Presented February 17, 1914.—*Sir Wilfrid Laurier*.....*Not printed.*

**133.** Statement of the population of Canada and its Provinces and Territories in the years 1871, 1881, 1891, 1901 and 1911, according to the census returns. Presented by Hon. Mr. Borden, February 17, 1914.....*Not printed.*

**134.** Return to an Order of the House of the 9th February, 1914, for a copy of all protests, if any, by the Grand Trunk Pacific Railway Company, against changes in grades of the National Transcontinental Railway from Winnipeg eastward, and terminal facilities at Quebec; of all subsequent approvals of such changes, if any, by the Grand Trunk Pacific Railway Company, and of all correspondence on the above subject. Presented February 18, 1914.—*Sir W. Laurier*.....*Not printed.*

**135.** Copy of Second Interim Report of the Royal Commission on the natural resources, trade and legislation of certain portions of His Majesty's Dominions, together with the Minutes of Evidence taken in Australia and New Zealand in 1913, in connection therewith. Presented by Hon. Mr. Foster, February 18, 1914.....*Not printed.*

**136.** Return to an Order of the Senate dated 27th January, 1914, for a copy of the Annual Report made in January, 1913, by the Central Railway Company to the Railway Department.—(*Senate*) .....*Not printed.*

**137.** Return to an Order of the Senate dated 27th January, 1914, for a copy of the Annual Report made by the Salisbury and Albert Railway Company to the Railway Department.—(*Senate*) .....*Not printed.*

**138.** Return to an Order of the House of the 9th February, 1914, for a copy of all correspondence and documents in reference to the matter submitted to Sir William Whyte by the Government, the Transcontinental Commission or the commission appointed to investigate the construction of the National Transcontinental Railway, between the Government or any member or official thereof, and any official of the Grand Trunk Pacific Railway Company; and also of all correspondence between any member or official of either the above named commissions and the Justice Department, concerning the said matter. Presented February 19, 1914.—*Mr. Graham*.....*Not printed.*

**139.** Return to an Order of the House of the 16th February, 1914, for a return showing the names, salaries and grades of the private secretaries of the members of the Liberal Government on October, 1911; the names of the private secretaries employed from time to time by the members of the present Government, and the salary and grade of each. Presented February 19, 1914.—*Mr. Murphy*.....*Not printed.*

**140.** Return to an Order of the House of the 9th February, 1914, for a return showing how many woollen industries are operated in the country; where situated, in which province, and in what city, town or village; the number of hands employed in each, and the output for each during 1913. Presented February 19, 1914.—*Mr. Verville.*
*Not printed.*

**141.** Return to an Order of the House of the 2nd February, 1914, for a return showing the number, location, and mileage of rural mail routes established in Bonaventure County from October, 1911, to date, if any; together with a copy of all applications, memorials, reports and correspondence generally on this matter. Presented February 23, 1914.—*Mr. Marcil (Bonaventure)* .....*Not printed.*

**141a.** Return to an Order of the House of the 2nd February, 1914, for a return showing a tabulated statement of the number of rural mail delivery routes opened since 1911, including the number of boxes used; also the new mail delivery contracts necessitated by the establishment of said routes in each county, not already moved for. Presented February 23, 1914.—*Mr. Lemieux*.....*Not printed.*

**141b.** Return to an Order of the House of the 19th February, 1914, for a return showing the number of rural mail delivery routes which have been established in Nova Scotia, and their names; and if any of the routes are provided with a daily service. Presented March 2, 1914.—*Mr. Sinclair*.....*Not printed.*

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**141***c*. Return to an Order of the House of the 18th February, 1914, for a copy of all documents, petitions, letters, telegrams, &c., exchanged between any one and the Post Office Department, in connection with the establishing of a rural mail service in the Parish of Ste. Marguerite de Blairfindie, County of St. Johns and Iberville, and of all documents, letters and telegrams, &c., relating to the contracts for the conveyance of rural mail in said parish. Presented April 29, 1914.—*Mr. Demers*.....*Not printed.*

**141***d*. Return to an Order of the House of the 20th April, 1914, for a return showing:—

1. Whether the rural postal delivery service has been started in the County of Quebec? If so, when and in what parishes of said county?

2. Whether public tenders have been advertised for such service? If so, when, how many were received and from whom, the amount of each tender, and what tender was accepted?

3. The price of the accepted tender, the name of the tenderer, the condition or conditions of payment, and the length of the contract. Presented April 30, 1914.—*Mr. Lachance* .....*Not printed.*

**141***e*. Return to an Order of the House of the 6th April, 1914, for a copy of all letters, petitions and documents relative to the establishment of a rural mail delivery route from New Glasgow through Mount William, Granton and Abercrombie, County of Pictou. Presented May 8, 1914.—*Mr. Macdonald* .....*Not printed.*

**141***f*. Return to an Order of the House of the 4th March, 1914, for a copy of all correspondence, telegrams, petition, recommendation and other documents relating to the establistment of the rural mail service in the parish of St. Theodore d'Acton. Presented May 16, 1914.—*Mr. Marcil* (*Bonaventure*) .....*Not printed.*

**141** (*g*). Return to an Order of the House of the 11th February, 1914, for a copy of all petitions, letters, telegrams and other papers relative to the establishment of rural mail delivery routes in the County of Pictou since January 1, 1912, together with the number of said routes, the carriers on each route, the tenders received in each case for the service, a copy of the correspondence in relation to said tenders and their acceptance, and the post offices closed or to be closed as the result of the establishment of said routes. Presented June 12, 1914.—*Mr. Macdonald*.....*Not printed.*

**142.** Return to an Order of the House of the 2nd February, 1914, for a return showing what new post offices have been established in the County of L'Islet since 1911; the names of the officer in charge of each of them; the revenue brought; the expenses incurred by these offices, including the salary and fees of the postmaster and charges for the conveyance of the mails; if these officers have been asked for by opetitions of the interested ratepayers, and if so, by whom; the quantity of letters and other postal matters that have passed through each of these offices since they have been established. Presented February 23, 1914.—*Mr. Lapointe* (*Kamouraska*).....*Not printed.*

**142***a*. Return to an Order of the House of the 30th March, 1914, for a copy of all documents, papers, petitions, correspondence, reports, &c., in connection with the opening of a post office under the name of Giasson in the parish of St. Aubert, County of L'Islet. Presented April 22, 1914.—*Mr. Lapointe* (*Kamouraska*).....*Not printed.*

**143.** Return to an Order of the House of the 2nd February, 1914, for a return showing the names and addresses, with rank or occupation, of all persons who accompanied the Minister of Militia and Defence to the Old country and Europe during the summer of 1913, and whose expenses were paid wholly or in part by the Dominion Government, or who were paid salary or allowance during such time, with the amount paid to each person. Presented February 23, 1914.—*Mr. Carvell*.....*Not printed.*

**144.** Return to an Order of the House of the 11th February, 1914, for a copy of all correspondence, telegrams and other papers to be found in the Department of the Naval Service in connection with the death and burial, at Montreal, of Joseph LeBlanc, a sailor on D.G.S. *Canada*. Presented February 23, 1914.—*Mr. Sinclair*..*Not printed.*

**145.** Return to an Order of the House of the 2nd February, 1914, for a copy of all tenders received for the construction of a salmon hatchery on Nipissiguit river, Gloucester County, N.B., and of the contract awarded. Presented February 23, 1914.—*Mr. Turgeon* .....*Not printed.*

**146.** Return to an Order of the House of the 9th April, 1913, for a copy of all correspondence, telegrams, petitions, affidavits, certificates, reports, complaints and other documents, relating to the resignation of Mr. M. C. Blais, recruiting officer of the Department of Marine and Fisheries from the Government shipyards at St. Joseph de Sorel, and to the appointment of Mr. F. P. Vanasse to this office. Presented February 23, 1914.—*Mr. Cardin* .....*Not printed.*

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**147.** Return to an Order of the House of the 9th February, 1914, for a copy of all correspondence, letters, telegrams, and other documents relating to industrial disputes during the year 1913, between the operators and employees of any of the companies operating coal mines on Vancouver Island, and disturbances arising out of the same; and of any correspondence, either before or since the year 1913, with respect to any of the said disputes. And in particular of all correspondence, letters, telegrams, and other documents to or from the Prime Minister, the Honourable the Minister of Labour or any of the officers of the Department of Labour, respecting attempts at conciliation in connection with these disputes, and to or from the Honourable the Minister of Militia, or any officers of the Department of Militia and the Honourable the Minister of Justice, or any officers of the Department of Justice, respecting the calling out and services of the militia in connection with said disputes; and a statement of the arrests made and of convictions, if any, for infringement of the laws. Also a copy of the evidence taken and reports of investigations made by the Honourable the Minister of Labour, Mr. Samuel Price, Commissioner appointed by the Department of Labour, and of the Deputy Minister of Labour; together with a detailed statement of the expenses of all such investigations and expenses otherwise incurred by any of the Departments of the Government in consequence of said disputes or difficulties arising out of same. Presented February 23, 1914.—*Sir W. Laurier*.....*Not printed.*

**147*a*.** Return to an Address to His Royal Highness the Governor General of the 2nd February, 1914, for a copy of all correspondence, letters, telegrams and reports that have been exchanged between the Government and the strikers and operators of coal mines in British Columbia since the beginning of the strike until the present; also a copy of all Orders in Council in connection with said strike. Presented February 23, 1914.—*Mr. Verville* .....*Not printed.*

**147*b*.** Supplementary Return to an Order of the House of the 9th February, 1914, for a copy of all correspondence, letters, telegrams, and other documents relating to industrial disputes during the year 1913, between the operators and employees of any of the companies operating coal mines on Vancouver Island, and disturbances arising out of the same; and of any correspondence, either before or since the year 1913 with respect to any of the said disputes. And in particular of all correspondence, letters, telegrams, and other documents to or from the Prime Minister, the Honourable the Minister of Labour or any of the officers of the Department of Labour, respecting attempts at conciliation in connection with these disputes, and to or from the Honourable the Minister of Militia, or any officers of the Department of Militia and the Honourable the Minister of Justice, or any officers of the Department of Justice, respecting the calling out and services of the militia in connection with said disputes; and a statement of the arrests made and of convictions if any, for infringement of the laws. Also a copy of the evidence taken and reports of investigations made by the Honourable the Minister of Labour, Mr. Samuel Price, Commissioner appointed by the Department of Labour, and of the Deputy Minister of Labour; together with a detailed statement of the expenses of all such investigations and expenses otherwise incurred by any of the Departments of the Government in consequence of said disputes or difficulties arising out of same. Presented February 24, 1914.—*Sir Wilfrid Laurier*.....*Not printed.*

**148.** Regulations, approved by Order in Council ,dated the 19th day of January, 1914, for the disposal of petroleum and natural gas rights, the property of the Crown in Manitoba, Saskatchewan, Alberta, the Northwest Territories, the Yukon Territory, the Railway Belt in the Province of British Columbia, and within the tract containing three and one-half (3½) million acres of land acquired by the Dominion Government from the Province of British Columbia, and referred to in subsection (*b*) of section 3 of the Dominion Lands Act. Presented by Hon. Mr. Roche, February 23, 1914.
*Not printed.*

**149.** Regulations in regard to grazing leases of vacant Dominion lands, &c. Presented by Hon. Mr. Roche, February 23, 1914.....*Not printed.*

**150.** Return to an Order of the House of the 9th February, 1914, for a return showing the amounts in detail paid to Ward Fisher, of Shelburne, N.S., fishery inspector, for the years 1912 and 1913 for salary, office expenses, travelling expenses, and all other expenses. Presented February 24, 1914.—*Mr. Maclean (Halifax)*.....*Not printed.*

**151.** Return to an Order of the House of the 2nd February, 1914, for a copy of the report of operations at the fishery hatchery at Port Daniel West, for the year 1913. Presented February 24, 1914.—*Mr. Marcil (Bonaventure)* .....*Not printed.*

**152.** Return to an Order of the House of the 18th February, 1914, for a copy of all correspondence, investigations or other documents respecting the loss of a horse killed on the Intercolonial, on the 10th of September last, the property of Johnny Roy, of Amqui. Presented February 24, 1914.—*Mr. Boulay*.....*Not printed.*

## CONTENTS OF VOLUME 28—*Continued.*

**153.** Return to an Order of the House of the 16th February, 1914, for a return showing the increase in freight rates on live-stock, including horses, carried over the Intercolonial Railway, by the tariff effective May 1, 1913, as compared with the tariff effective April 15, 1909, for the following distances, respectively:—

| | | | | |
|---|---|---|---|---|
| Over | 5 | and not over | 10 | miles. |
| " | 10 | " " | 15 | " |
| " | 15 | " " | 20 | " |
| " | 20 | " " | 25 | " |
| " | 25 | " " | 30 | " |
| " | 30 | " " | 40 | " |
| " | 40 | " " | 50 | " |
| " | 50 | " " | 60 | " |
| " | 60 | " " | 70 | " |
| " | 70 | " " | 80 | " |
| " | 80 | " " | 90 | " |
| " | 90 | " " | 100 | " |
| " | 100 | " " | 110 | " |
| " | 110 | " " | 120 | " |
| " | 120 | " " | 130 | " |
| " | 130 | " " | 140 | " |
| " | 140 | " " | 150 | " |
| " | 150 | " " | 160 | " |

Presented February 24, 1914.—*Mr. Kyte*.....*Not printed.*

**154.** Return to an Order of the House of the 9th February, 1914, for a copy of all correspondence, letters, telegrams, and other documents relative to the report and recommendations of the Board appointed under the Combines Investigation Act to investigate the methods adopted by the United Shoe Machinery Company. Presented February 24, 1914.—*Sir Wilfrid Laurier*.....*Not printed.*

**155.** Return to an Address to His Royal Highness the Governor General of the 2nd February, 1914, for a copy of memorandum of agreement between the Canadian Government railways and the Canadian Pacific Railway Company, covering the transportation of freight and passengers between Halifax and St. John over the Intercolonial Railway, in connection with the Canadian Pacific and Allan Line Steamships, carrying British mails, making Halifax the terminal port; also of all agreements, Orders in Council, petitions, memorials, regulations or orders of the Department of Railways and Canals, or of any officer or officers of the Intercolonial Railway; of letters or other correspondence, interviews with the Prime Minister and other member or members of the Government, and representations to the Prime Minister, or other member or members of the Government, in any manner relating to the said memorandum of agreement; and of all telegrams and letters received by the Government, or any member thereof, or sent by them, either in reply or otherwise; also of all letters, telegrams, representations or other documents relating to the said agreement or in any way connected therewith, received by F. P. Gutelius, the General Manager of the Intercolonial Railway, from the Canadian Pacific Railway, or from any corporation, persons or body, or sent by him, in reply thereto or otherwise, to the said Canadian Pacific Railway or to any other corporation, body or person. Presented February 24, 1914.—*Mr. Emmerson*..*Not printed.*

**156.** Return to an Address to His Royal Highness the Governor General of the 9th February, 1914, for a copy of all Orders in Council since the 1st of June last in any way altering the rates of duties existing under the Customs Act. Presented February 24, 1914.—*Sir Wilfrid Laurier*.....*Not printed.*

**157.** Correspondence, statements, &c., in respect to certain proposed advances to the Harbour Commissioners of Montreal, for expenditure during the years 1914, 1915, 1916 and 1917. Presented by Hon. Mr. Hazen, February 27, 1914.....*Not printed.*

**158.** Memorandum of proposed harbour improvements to be made by the Harbour Commissioners of Quebec during 1914, out of certain proposed advances to be made to the said commission. Presented by Hon. Mr. Hazen, February 27, 1914.....*Not printed.*

**159.** Return to an Order of the House of the 2nd February, 1914, for a copy of all papers, correspondence, telegrams, &c., between the Department of Trade and Commerce and any person or persons, companies or corporations, in the years 1912 and 1913, respecting a steamship service between St. John, N.B., and Bear River, N.S., and intermediate points, and the matter of the payment of a subsidy therefor. Presented March 2, 1914.—*Mr. Maclean (Halifax)*.....*Not printed.*

**160.** Return to an Order of the House of the 2nd February, 1914, for a copy of the reports made by the proprietors of the steamer *Canada*, on which the subsidy was paid to them for the season of 1913, for the service between Campbellton, N.B., and Gaspé, Que.; together with a copy of all complaints regarding the said service and of the correspondence, reports and documents in the possession of the Department of Trade and Commerce in that connection in the said year. Presented March 2, 1914.—*Mr. Marcil (Bonaventure)*.....*Not printed.*

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**161.** Return to an Order of the House of the 4th February, 1914, for a return showing what sum or sums of money, if any, have been expended by the Government since the 21st of September, 1911, in the County of Wright, Quebec, and how such money has been expended. Presented March 2, 1914.—*Mr. Devlin*.....*Not printed.*

**162.** Return to an Order of the House of the 26th February, 1914, for a return showing:—

1. How many temporary clerks were employed in the Library of Parliament during the Sessions of 1911-1912 and 1912-1913, their names and the salary paid to each for such service, and the total so paid?

2. How many temporary clerks are at present so employed, their names and salaries respectively?

3. If any temporary clerks were employed in said library, during the Session of 1910-1911; if so, how many?

4. What was the then number of permanent clerks in the library, and the present number of temporary clerks employed in said library?

5. Why temporary clerks are employed in said library in positions superior to and at higher pay than that paid to permanent clerks? Presented March 3, 1914.—*Mr. Turgeon* .....*Not printed.*

**163.** Return to an Address to His Royal Highness the Governor General of the 2nd February, 1914, for a copy of all correspondence, telegrams, memoranda, Orders in Council, instructions to officers, regulations and other papers and documents relating to a change in the regulations governing the fishing of salmon in the St. John River, above tidal water. Presented March 3, 1914.—*Mr. Sinclair*.....*Not printed.*

**164.** Return to an Order of the House of the 2nd February, 1914, for a copy of all letters, telegrams and correspondence in any way relating to the appointment of men in any way connected with the salmon fishing pond at Margaree during the year 1913. Presented March 3, 1914.—*Mr. Chisholm (Inverness)* .....*Not printed.*

**165.** Return to an Order of the House of the 2nd February, 1914, for a copy of all tenders received in 1912 for the construction of a breakwater at Green Point, Gloucester County, N.B., and of all correspondence, letters and telegrams showing why the contract was not awarded to lowest tenderer. Presented March 3, 1914.—*Mr. Turgeon*..*Not printed.*

**166.** Return to an Order of the House of the 2nd February, 1914, for a copy of all correspondence, letters, telegrams, &c., touching in any way the work done on Lingan Beach, South Cape Breton, under Superintendent H. D. McLean. Presented March 3, 1914.—*Mr. Carroll* .....*Not printed.*

**167.** Return to an Order of the House of the 2nd February, 1914, for a copy of all papers, advertisements, tenders, bids, contracts, reports, vouchers, accounts, receipts, correspondence, &c., in connection with a wharf recently constructed at Gold River, Lunenburg County, N.S. Presented March 3, 1914.—*Mr. Maclean (Halifax)*.....*Not printed.*

**168.** Return to an Address to His Royal Highness the Governor General, of the 9th February, 1914, for a copy of all documents, Orders in Council, correspondence, telegrams, tenders, accounts, vouchers, part, &c., in connection with the construction of a bridge or work between the mainland and an island, known as Boutilier's island, at South West Cove, Lunenburg County, N.S. Presented March 3, 1914.—*Mr. Maclean (Halifax)*..*Not printed.*

**169.** Return to an Order of the House of the 9th February, 1914, for a copy of all advertisements, tenders, contracts, documents, letters and correspondence relating to the supply of coal for the Government public buildings at Lunenburg, N.S. Presented March 3, 1914.—*Mr. Macdonald* .....*Not printed.*

**170.** Return to an Order of the House of the 2nd February, 1914, for a comparative statement of the quantity of cubic yards of dredging done by the *Restigouche*, or dredge *No. 3*, on the outside bar of Bathurst Harbour, during the seasons of 1910, 1911, 1912 and 1913. Presented March 3, 1914.—*Mr. Turgeon*.....*Not printed.*

**170a.** Return to an Order of the House of the 2nd February, 1914, for a copy of all tenders received for the dredging in Bathurst Harbour, and of the contract awarded. Presented March 3, 1914.—*Mr. Turgeon*.....*Not printed.*

**170b.** Return to an Order of the House of the 2nd February, 1914, for a copy of all correspondence, letters and telegrams relating to the deposit of sand and mud dumped into the southwestern channel by the contractors of dredging in Bathurst Harbour. Presented March 3, 1914.—*Mr. Turgeon*.....*Not printed.*

**171.** Return to an Address to His Royal Highness the Governor General of the 9th February, 1914, for a copy of all correspondence, telegrams, petitions and memorials received by the Right Honourable R. L. Borden, Premier of Canada, or the Minister of Railways and Canals, from J. A. Gillies, Esq., Sydney, N.S., or from any resident of the County of Richmond, N.S., relative to the purchasing of the Cape Breton Railway by the Government and the building of a line of railway from St. Peters to Sydney and Louisburg, and of replies thereto. Presented March 3, 1914.—*Mr. Kyte*.....*Not printed.*

## CONTENTS OF VOLUME 28—*Continued.*

**172.** Return to an Order of the House of the 2nd February, 1914, for a return showing:—
1. The names of all proprietors from whom land and property have been expropriated for the purpose of the Halifax Ocean Terminals between Three Mile House and the proposed site of the railway and shipping terminals?
2. The price or amount of damages paid therefor, or the amount offeerd and accepted in the case of each proprietor?
3. The amount offered or tendered each proprietor for damages and which has not been accepted.
4. The quantity of land and nature of property so expropriated from each proprietor. Presented March 3, 1914.—*Mr. Maclean (Halifax)*.....*Not printed.*

**172a.** Return to an Order of the House of the 2nd February, 1914, for a copy of all advertisements, tenders, papers, documents, letters and correspondence relating to the construction of the railway from Three Mile House at Bedford Basin to Halifax Harbour, and also to the piers or wharfs and sea walls in connection with the proposed Halifax Ocean Terminals. Presented March 16, 1914.—*Mr. Maclean (Halifax)*.....*Not printed.*

**173.** Return to an Order of the House of the 2nd February, 1914, for a copy of all agreements, correspondence, papers and documents referring to any arrangement made between the Intercolonial Railway of Canada and the Canadian Pacific Railway in the year 1913, relating to the hauling of Canadian Pacific Railway freight and passenger trains between St. John and Halifax, connecting with any transatlantic steamship lines at Halifax, during the winter season of 1913-14. Presented March 4, 1914.—*Mr. Maclean (Halifax)* .....*Not printed.*

**174.** Return to an Order of the House of the 20th January, 1913, for a copy of all recommendations, correspondence, letters, telegrams and reports now on file in the Department of Justice, relating to the vacancy in the office of deputy warden of the Dorchester penitentiary, and the appointment of a successor to Mr. A. B. Pipes, who was promoted from the position of deputy warden of Dorchester penitentiary to that of warden. Presented March 4, 1914.—*Mr. Emmerson* .....*Not printed.*

**175.** Correspondence between the City of Ottawa and the Government, on the subject of a pure water supply for the city and Government buildings. Presented by Hon. Mr. Borden, March 4, 1914.....*Not printed.*

**176.** Return to an Order of the House of the 2nd February, 1914, for a copy of all letters, correspondence, telegrams and all other documents between the Department of Railways and Canals and Archer, Macdonald, E. Montpetit, C. A. Harwood, and A. Marceau, local engineer, St. Amour, Superintendent of the Canal of Soulanges, L. A. Sauvé, and others, respecting the tearing down of several houses and dependencies erected on the Government grounds at Pointe Cascades, the property of the said L. A. Sauvé. Presented March 5, 1914.—*Mr. Boyer* .....*Not printed.*

**177.** Return to an Order of the House of the 23rd February, 1914, for a copy of all agreements between the Transcontinental Railway Commission and the Canadian Northern Railway for the use of the line of the said company by the trains of the Transcontinental Railway from Cap Rouge to the shops at St. Malo. Presented March 5, 1914.—*Sir Wilfrid Laurier* .....*Not printed.*

**178.** Return to an Order of the House of the 23rd February, 1914, for a copy of all correspondence between the Minister of Railways or the Transcontinental Railway Commission and the Quebec Harbour Commission, with regard to the construction by the said Harbour Commission of a line of railway to connect the said Transcontinental Railway from Champlain Market with the proposed Union Station at the Palais, and of all contracts by the said Harbour Commission towards that end. Presented March 5, 1914.—*Sir Wilfrid Laurier* .....*Not printed.*

**179.** Return to an Order of the House of the 9th February, 1914, for a copy of all advertisements, tenders, contracts and correspondence in connection with the proposed New London Branch of the Prince Edward Island Railway. Presented March 5, 1914.—*Mr. Graham* .....*Not printed.*

**180.** Return to an Order of the House of the 4th February, 1914, for a return showing the total amount of available cash on deposit to the credit of the Government of Canada on the last day of each month between April 1, 1913, and December 31, 1913. Presented March 5, 1914.—*Mr. Maclean (Halifax)*.....*Not printed.*

**181.** Return to an Order of the House of the 4th February, 1914, for a return showing the following particulars respectively, of all loans placed or extended by the Government of Canada, upon the London market during the calendar years 1912 and 1913; Loan, date and copy of prospectus; price in prospectus and price realized; date on which loan matures; rate per cent; total issue; amount realized; charges including discount for immediate payments, &c.; net amount of cash realized; and the annual effective rate of interest per unit. Presented March 5, 1914.—*Mr. Maclean (Halifax)*....*Not printed.*

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**182.** Return to an Order of the House of the 9th February, 1914, for a return showing the number of farm labourers and public servants respectively, placed by the Government employment agents during the years 1912 and 1913; also the counties where placed and amount of bonus paid. Presented March 6, 1914.—*Mr. Sutherland*.....*Not printed.*

**183.** Return to an Order of the House of the 26th February, 1914, for a return showing:—
1. What chartered banks in Canada have gone into liquidation since Confederation, and at what date in each case;
2. The loss in each case to the depositors, the note holders and the stockholders respectively;
3. What relief, if any, was given in each case by the Government to any of the parties suffering loss. Presented March 6, 1914.—*Mr. Neely*.....*Not printed.*

**184.** Return to an Order of the House of the 11th February, 1914, for a return showing the number of binders, reapers, mowers, ploughs, seeders, and cultivators exported from and imported to Canada, with their value respectively, in each of the years 1910, 1911, 1912 and 1913. Presented March 6, 1914.—*Mr. Neely*.....*Not printed.*

**185.** Return to an Order of the House of the 23rd February, 1914, for a return showing the number of cattle exported from Canada to the United States in the months of October, November and December, 1913, and January, 1914, and for the corresponding months in 1912 and 1913. Presented March 6, 1914.—*Mr. Maclean (Halifax)*....*Not printed.*

**186.** Return to an Order of the House of the 23rd February, 1914, for a return showing the quantities and varieties of fish exported from Canada to the United States in the months of October, November and December, 1913, and January, 1914, and for the corresponding months in 1912 and 1913. Presented March 6, 1914.—*Mr. Maclean (Halifax)*. *Not printed.*

**187.** Return to an Order of the House of the 26th February, 1914, for a return showing:—
1. Who were, from incorporation, and who are, the officers and directors of the Grand Trunk Pacific Railway Company;
2. The amount of capital stock of said company, the amount paid up, and who are the holders of such paid up stock, and the amount held, and still held, by each;
3. If this company, or a subsidiary company, has contracted to build any portion of the National Transcontinental Railway; and, if so, the total amount of their contracts for such work;
4. What portion of such contracts or work was sublet, and on such sublet contracts what profit was made by the said company. Presented March 6, 1914.—*Mr. Middlebro.* *Not printed.*

**188.** Report of the Board of Inquiry appointed to investigate and verify the claims of applicants for Fenian Raid Volunteer Bounty in the Province of Nova Scotia. Presented by Hon. Mr. Hughes, March 9, 1914.....*Not printed.*

**188a.** List of applicants, in Nova Scotia, for the Fenian Raid Volunteer Bounty whose claims have been approved.—List of Fenian Raid Volunteer Bounty applicants, in Nova Scotia, received to December 31, 1913, but not yet considered. Presented by Hon. Mr. Hughes, March 9, 1914.....*Not printed.*

**189.** Return to an Order of the House of the 12th February, 1914, for a return showing what was the local minimum rate of freight on small parcels on the Intercolonial Railway prior to October 10, 1911, and also the present rate on the same. Presented March 9, 1914.—*Mr. Sinclair*.....*Not printed.*

**190.** Return to an Order of the House for a copy of all correspondence, reports, evidence taken, and of all other papers in the possession of the Minister of Railways and Canals, relating to the investigation recently held by Mr. Ferguson, M.L.A., concerning the affairs of the Trent Valley Canal. Presented March 9, 1914.—*Mr. Burnham.*
*Report only printed for distribution and sessional papers.*

**191.** Return to an Order of the House of the 16th February, 1914, for a copy of all papers necessary to convey full information as to the charter, outfit and instructions of the *Karluk* and auxiliary vessels; the names, rank, pay and terms of engagement of their officers and crews; and of all communications received from Mr. V. Steffansson, or any other person who has received such a communication, written after the expedition sailed for the Arctic Ocean. Presented March 10, 1914.—*Mr. Oliver*.....*Not printed.*

**192.** Return to an Order of the House of the 2nd February, 1914, for a return showing the number of towns in the Province of Ontario which have a population larger than the town of Chesley, South Riding of Bruce, which was 1,734, according to the last census; also the number of such towns served by letter boxes on the street. Presented March 10, 1914.—*Mr. McCraney*.....*Not printed.*

**193.** Return to an Order of the House of the 2nd February, 1914, for a return showing the names of the promoters of the National Drop Forge Company, Limited, and the powers asked by and given to said company by letters patent. Presented March 10, 1914.—*Mr. Lemieux*.....*Not printed.*

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**194.** Return to an Order of the House of the 2nd February, 1914, for a return showing the names of the promoters of the Canadian Contracting Company, and the powers asked by and given to said company by letters patent. Presented March 10, 1914.—*Mr. Lemieux* .....*Not printed.*

**195.** Return to an Order of the House of the 4th February, 1914, for a copy of all papers, letters, telegrams, reports, inquiries and documents or other communications had with any of the Departments of the Government, particularly with the Interior, Customs and Marine and Fisheries Departments, relating to Gustavas A. Colpitts, a Canadian citizen returning as a passenger on the Royal Mail Steamship *Empress of Britain,* in September, 1911, who alleged that he was not allowed by officers of the Government to disembark at Rimouski from said steamship. Also a copy of all letters, correspondence or other communications received by any members of the Government, particularly by the Minister of Marine and Fisheries, and by any Department of the Government, from the said Gustavas A. Colpitts, who was at the time a student at Mount Allison University, Sackville, New Brunswick, and of all letters or other communications sent in reply thereto. Presented March 10, 1914.—*Mr. Emmerson*.....*Not printed.*

**196.** Number of Chinamen entering Canada during years 1911-12-13, &c.—(*Senate.*). *Not printed.*

**197.** Return to an Order of the House of the 23rd February, 1914, for a copy of all letters, papers, plans, correspondence, memoranda and other documents relative to the shortening of distances on the Intercolonial Railway between Pictou and Port Mulgrave, and to the construction of a new bridge at Pictou in connection therewith. Presented March 12, 1914.—*Mr. Macdonald*.....*Not printed.*

**198.** Return to an Order of the House of the 23rd February, 1914, for a copy of all letters, telegrams, correspondence, leases and other documents relating to the cutting of lumber by Mr. B. F. Smith from the so-called Tobique Indian reserve, in the Province of New Brunswick, and of all recommendations with reference thereto, made by the Indian agent for that portion of the Province, or any other official of the Department in the said Province; together with a statement of the lumber cut by said Smith from said reserve, with the rates of stumpage charged and amounts paid since January 1, 1912. Presented March 12, 1914.—*Mr. Carvell*.....*Not printed.*

**198*a*.** Return to an Order of the House of the 23rd February, 1914, for a copy of all correspondence, letters, telegrams, memorials, petitions, &c., relating to the sale or transfer of the Indian reserve at Sydney, N.S., and the removal of the Indians therefrom. Presented March 17, 1914.—*Mr. Kyte*.....*Not printed.*

**198*b*.** Return to an Order of the House of the 23rd March, 1914, for a copy of all the instructions issued to C. P. Fullerton and Fawcett Taylor, or either of them, in reference to the St. Peter's Indian reserve. Presented April 8, 1914.—*Mr. Oliver*.....*Not printed.*

**199.** Return to an Order of the House of the 11th February, 1914, for a copy of all correspondence, letters, telegrams and other documents relative to the purchase for the Intercolonial Railway of a quantity of coal in the United States, within the past few months. Presented March 12, 1914.—*Mr. Macdonald* .....*Not printed.*

**199*a*.** Return to an Order of the House of the 2nd February, 1914, for a return showing:—

1. When the Intercolonial Railway and the Prince Edward Island Railway last called for tenders for its coal supply, and when the tenders were returnable?

2. The number of tenders received, the names of the tenderers, and their respective prices?

3. The date of the last contract or contracts for coal for the Intercolonial Railway, and who was the contractor or contractors respectively?

4. The names of the successful tenderers, as the result of the last call for tenders, and their prices respectively?

5. The amount in tons of the contract made with each, and at what prices per ton respectively?

6. If any coal was purchased for the Government system of railways in the United States since March 31, 1913? If so, by whom, from whom, and through whom it was purchased, and at what price, the cost per ton delivered, inclusive of commissions to the railways. Presented March 18, 1914.—*Mr. Emmerson*.....*Not printed.*

**199*b*.** Return to an Order of the House for a return showing whether the Government has purchased any coal, freight or passenger cars during the past six months for the Intercolonial Railway; if so, from whom and in what quantity; the price paid in each case; if any tenders were called for the same; who the tenderers were and the amount of each tender. Presented April 6, 1914.—*Mr. Macdonald*.....*Not printed.*

**200.** Return to an Order of the House of the 4th March, 1914, for a return showing the freight rates on flour, hay, oats, lumber and firewood per 100 lbs. or per ton, between Bathurst, N.B., and Nepisiguit Junction, Red Pine, Bartibogue, Beaver Brook, and between Bathurst, Berresford, Petit Rocher and Belledune, before the changes made in August, 1913, and the freight rates on the same articles, between the same points, under the new schedule of rates. Presented March 16, 1914.—*Mr. Turgeon*.....*Not printed.*

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**201.** Return to an Order of the House of the 11th February, 1914. for a copy of all contracts, accounts, bills, memoranda, letters, correspondence, receipts, vouchers, bills of lading, &c., referring to all materials, provisions, supplies and goods of every description purchased and forwarded to Port Nelson during the year 1913, by any Department of the Government of Canada, and agreements for employment of workmen in connection with the construction of the Hudson Bay Railway terminals at Port Nelson. Presented March 18, 1914.—*Mr. Maclean (Halifax)*.....*Not printed.*

**202.** Return to an Order of the House of the 9th February, 1914, for a copy of all papers, letters or other correspondence, instructions, reports, valuations, appointment of valuators, or appraisers, appraisements, abstracts of titles, deeds or other conveyances, in any Department of the Government or in the railway offices at Moncton, relating to, or in any manner connected with, the purchase by the Intercolonial Railway of a property in Moncton, N.B., at the corner of Archibald and Main streets in said city, formerly owned in his lifetime by the late P. S. Archibald, C.E., and now occupied by the General Superintendent of the Intercolonial Railway, F. P. Brady, as a residence; together with a copy of all bills, accounts and statement of expenditures for repairs made on the buildings of said property; and also of accounts, commissions and bills paid to solicitors, attorneys or other agents, for searches, conveyances, and a statement of all moneys paid for charges and expenses in connection with such purchase or the procuring of a deed of said property? Presented March 16, 1914.—*Mr. Emmerson.*
*Not printed.*

**202*a*.** Supplementary Return to an Order of the House of the 9th February, 1914, for a copy of all papers, letters or other correspondence, instructions, reports, valuations, appointment of valuators, or appraisers, appraisements, abstracts of titles, deeds or other conveyances in any department of the Government or in the railway offices at Moncton, relating to, or in any manner connected with, the purchase by the Intercolonial Railway of a property in Moncton, N.B., at the corner of Archibald and Main streets in said city, formerly owned in his lifetime by the late P. S. Archibald, C.E., and now occupied by the General Superintendent of the Intercolonial Railway, F. P. Brady, as a residence; together with a copy of all bills, accounts and statement of expenditures for repairs made on the buildings of said property; and also of accounts, commissions and bills paid to solicitors, attorneys or other agents, for searches, conveyances, and a statement of all monies paid for charges and expenses in connection with such purchase or the procuring of a deed of said property. Presented March 26, 1914.—*Mr. Emmerson*.....*Not printed.*

**202*b*.** Further Supplementary Return to an Order of the House of the 9th February, 1914, for a copy of all papers, letters or other correspondence, instructions, reports, valuations, appointment of valuators, or appraisers, appraisements, abstracts of titles, deeds or other conveyances in any department of the Government or in the railway offices at Moncton, relating to, or in any manner connected with, the purchase by the Intercolonial Railway of a property in Moncton, N.B., at the corner of Archibald and Main streets in said city, formerly owned in his lifetime by the late P. S. Archibald, C.E., and now occupied by the General Superintendent of the Intercolonial Railway, F. P. Brady, as a residence; together with a copy of all bills, accounts and statement of expenditures for repairs made on the buildings of said property; and also of accounts, commissions and bills paid to solicitors, attorneys or other agents, for searches, conveyances, and a statement of all monies paid for charges and expenses in connection with such purchase or the procuring of a deed of said property. Presented April 1, 1914.—*Mr. Emmerson*.....*Not printed.*

**203.** Return to an Order of the House of the 4th March, 1914, for a return showing the freight rates under the old tariff of the Intercolonial Railway, per 100 lbs. or per ton, on fresh, dried and cured fish, molasses, coal oil, nails, hardware and anthracite coal from Gloucester Junction and Bathurst station to and from St. John, and the present rates for the same articles between the same points. Presented March 17, 1914.—*Mr. Turgeon.*
*Not printed.*

**204.** Return to an Order of the House of the 23rd February, 1914, for a return showing all smelt fishing licenses issued in the County of Pictou during the past season, and of all correspondence in reference to the same. Presented March 17, 1914.—*Mr. Macdonald.*
*Not printed.*

**204*a*.** Supplementary Return to an Order of the House of the 23rd February, 1914, for a return showing all smelt fishing licenses issued in the County of Pictou during the past season, and of all correspondence in reference to the same. Presented April 17, 1914.—*Mr. Macdonald*.....*Not printed.*

**205.** Return to an Order of the House of the 2nd February, 1914, for a copy of all documents concerning the latest changes in the lobster fishing regulations at Magdalen Islands. Presented March 17, 1914.—*Mr. Lemieux*.....*Not printed.*

## CONTENTS OF VOLUME 28—*Continued.*

**206.** Return to an Order of the House of the 16th February, 1914, for a copy of all correspondence, telegrams, tenders and documents connected in any way with the supplying of coal to the lobster hatchery at Margaree during the years 1910-1911, 1911-1912, 1912-1913 and 1913-1914. Presented March 17, 1914.—*Mr. Chisholm (Antigonish).* *Not printed.*

**207.** Return to an Order of the House of the 16th February, 1914, for a copy of the charges made against Mrs. Marguerite Fair, postmistress of Black Cape, Quebec, on which Mr. Louis Taché of Rimouski, was authorized to hold an investigation, together with the appeal of said investigation, if any was held. Presented March 17, 1914.—*Mr. Marcil (Bonaventure)* ..... *Not printed.*

**208.** Return to an Order of the House of the 2nd February, 1914, for a copy of all correspondence, papers, documents, reports, &c., in connection with the proposed increase of mail service from Shelburne, N.S., to Jordan Bay and Jordan Ferry and return since October 1, 1911. Presented March 17, 1914.—*Mr. Maclean (Halifax)* ..... *Not printed.*

**209.** Return to an Order of the House of the 2nd February, 1914, for a copy of all correspondence between the Post Office Department, or any official thereof, and any person or persons, concerning the installation of street letter boxes in the village of Chesley, in the riding of South Bruce. Presented March 17, 1912.—*Mr. Graham....Not printed.*

**210.** Report of the Commission of Conservation of Canada on the Trent Watershed Survey, a reconnaissance by C. D. Howe, Ph.D., and J. H. White, B.A., B.Sc. F., with an introductory discussion by B E. Fernow, LL.D Presented by Hon. Mr. Borden, March 19, 1914 ..... *Not printed.*

**210a.** Conservation of coal in Canada. Report of Commission of Conservation.—(*Senate*). *Not printed.*

**211.** Copy of evidence taken before Mr. William Henry Moore, the commissioner appointed to inquire into certain charges against Mr. Frank Fairen, store keeper on the Trent Canal, sentation in the Senate, of the Western provinces of Canada. Presented by Hon. Mr. March 19, 1914 ..... *Not printed.*

**212.** Copy of the opinion of the Deputy Minister of Justice on the subject of increased representation in the Senate, of ahe Western provinces of Canada. Presented by Hon. Mr. Borden, March 19, 1914 ..... *Not printed.*

**212a.** Copy of a resolution of the Legislative Assembly of the Province of British Columbia, approved by His Honour the Lieutenant Governor in Council, in which application is made to the Federal Government to increase the number of senators for the said province. Presented by Hon. Mr. Borden, March 19, 1914..... *Not printed.*

**212b.** Copy of opinion of the Assistant Deputy Minister of Justice on the subject of increased representation in the Senate, of the prairie provinces of Canada. Presented by Hon. Mr. Borden, March 23, 1914..... *Not printed.*

**213.** Return to an Order of the House of the 9th March, 1914, for a copy of all papers and correspondence in the Department of Customs regarding the entry of a boring mill at Lethbridge, Alberta, shipped in August, 1913, by John Stirk and Company, and billed to the Lethbridge Iron Works. Presented March 20, 1914.—*Mr. Buchanan* . *Not printed.*

**214.** Return to an Order of the House of the 16th March, 1914, for a copy of a petition dated the 9th of July, 1911, signed by Etienne Barre, Joseph Trudeau and others, taxpayers of the municipality of Chambly Basin, and addressed to the Minister of Justice, together with a copy of all documents and vouchers attached to said petition, and of all correspondence and other documents relating thereto. Presented March 23, 1914.—*Mr. Lamarche* ..... *Not printed.*

**215.** Return to an Order of the House of the 2nd February, 1914, for a return showing where the D.G. cruiser *Margaret* was built; the names of the builders; the contract price; whether the contract was awarded to the lowest tenderer; the name and address of each tenderer and amount of each tender; if the Government or any department thereof has contracted for any other vessel or vessels during the past eighteen months; and if so, the number of such vessels, the names and addresses of the contractors, the gross tonnage of each and the contract price, and the service for which they were intended. Presented March 23, 1914.—*Mr. Sinclair*..... *Not printed.*

**216.** Return to an Order of the House of the 2nd March, 1914, for a copy of all letters, telegrams or other correspondence in connection with the seizure of eleven (11) horses belonging to Mr. John M. Ferguson, Kaleida, Manitoba, on or about the 28th day of March, 1912. Presented March 24, 1914.—*Mr. Turriff*..... *Not printed.*

**217.** Return to an Order of the House of the 4th February, 1914, for a return showing the quantities and values of potatoes imported monthly into Canada during the years 1911, 1912 and 1913, and the countries from which such potatoes were imported. Presented March 25, 1914.—*Mr. Hughes (Kings, P.E.I.)*..... *Not printed.*

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**217a.** Return to an Order of the House of the 2nd February, 1914, for a return showing the quantities and values of potatoes exported monthly from each province of Canada, from September 1, 1911, to January 1, 1914, and the countries to which the same were exported. Presented March 25, 1914.—*Mr. Carvell* .....*Not printed.*

**218.** Return to an Order of the House of the 12th March, 1914, for a return showing how many colonels, honorary colonels, lieut.-colonels, honorary lieut.-colonels, and other officers, honorary and otherwise, have been appointed by the Minister of Militia and Defence from October, 1911, to the present time. Presented March 25, 1914.—*Mr. Hughes (Kings, P.E.I.)*.....*Not printed.*

**218a.** Return to an Order of the House of the 11th February, 1914, for a return showing the number of honourary appointments to military rank which have been made by, or with the approval of, the present Minister of Militia and Defence since he assumed office, giving the names of the persons so appointed, and the rank of each. Presented April 1, 1914.—*Mr. Murphy* .....*Not printed.*

**219.** Kitsilano Indian reserve—relating to the purchase of by the Government of the Dominion of Canada from the Province of British Columbia.—(*Senate*).....*Not printed.*

**220.** Return to an Address to His Royal Highness the Governor General of the 9th March, 1914, for a copy of all papers, documents, Orders in Council, correspondence, &c., in reference to the suspension of Mr. Joseph McGillis of the Department of Customs, Ottawa. Presented March 27, 1914.—*Mr. Maclean (Halifax)*.....*Not printed.*

**221.** Return to an Order of the House of the 2nd February, 1914, for a return showing the names of all parties who have been employed at the Experimental Farm at Ste. Anne de la Pocatière during the years 1912 and 1913, and the salary and fees paid to each of them. Presented March 30, 1914.—*Mr. Lapointe (Kamouraska)*.....*Not printed.*

**222.** Return to an Order of the House of the 9th February, 1914, for a return showing the total number of veterinary inspectors employed by the Government in the slaughter houses of the country; how they are distributed in each Province; the names of the establishments they are connected with, and the number of officers in each of them; if the Government employ some others to supervise the health of the herds on the farms besides the veterinary inspectors connected with the slaughter houses; the number of them, and how they are distributed in each Province; the number of herds of both cattle and hogs that have been submitted to inspection during the years 1911, 1912 and 1913; the number of animals in each Province slaughtered ,after tuberculosis was found in them; if the Government paid indemnities to the owners on account of such slaughtering, and if so, the amount in each Province; the respective salaries of the veterinary inspectors employed in the slaughter houses; the working hours of those officers; the respective salaries paid to the veterinary inspectors employed for other purposes; the amount of the expenses of that branch of the Department of Agriculture for the years 1911, 1912 and 1913 for internal managmeent, such as salaries, and the salaries and expenses for each of the Provinces. Presented March 30, 1914.—*Mr. Boyer.* *Not printed.*

**223.** Return to an Order of the House of the 23rd February, 1914, for a copy of the report of George Lafontaine, received by the Department of Agriculture during the present fiscal year, relating to the manufacture of chemical manure. Presented March 30, 1914.—*Mr. Boulay* .....*Not printed.*

**224.** Return to an Order of the House of the 16th February, 1914, for a return showing:—

1. Whether the Postmaster General has given a contract for rural parcel boxes; and, if so, to whom?
2. Whether tenders for the boxes were asked?
3. From whom tenders were received?
4. The price, if any, of the different tenders?
5. How many boxes were ordered, and at what price?
6. Whether the Postmaster General, since he came into office, has made a contract for rural mail boxes, and, if so, when?
7. The amount of the contract?
8. Who the tenderers were, and the price, if any, of the different tenders?
9. Who received the contract, and the price paid per box?
10. How many boxes, if any, were ordered? Presented March 31, 1914.—*Mr. Nesbitt* .....*Not printed.*

**225.** Return to an Order of the House of the 23rd March, 1914, for a return showing the rates of interest paid on all Dominion loans from 1890 to 1914. Presented March 31, 1914.—*Mr. Pardee*.....*Not printed.*

**226.** Return to an Address to His Royal Highness the Governor General, of the 9th March, 1914, for a copy of all correspondence since October, 1911, between the Government of Canada, represented by the Department of Marine and Fisheries, of the one part, and the Goverment of the United Kingdom, the Government of the United States, or any other Government, of the other part, relating to steam trawling in Atlantic waters Presented March 31, 1914.—*Mr. Sinclair*.....*Not printed.*

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**227.** Return to an Order of the House of the 11th February, 1914, for a copy of all letters, telegrams, and written requests during the years 1912 and 1913, addressed to the Department of Marine and Fisheries, or the Department of Naval Affairs, or any officer of either Department, or Marine branches of said department, or any officer or persons of either branch, by any person or persons, relating to proposals or requests that the vessels or any vessel under the control of the Naval Branch of said Department, should be present at any regatta or celebration of any description held anywhere on the Atlantic or Pacific Coasts of Canada during said years; also of all replies to such letters, telegrams and written requests. Presented March 31, 1914.—*Mr. Law* .....*Not printed.*

**228.** Return to an Order of the House of the 9th March, 1914, for a copy of all correspondence, memoranda and other documents relating to the moral, mental and physical inspection of all immigrants entering Canada. Presented April 1, 1914.—*Mr. Paquet.* *Not printed.*

**229.** Return to an Order of the House of the 16th March, 1914, for a copy of all orders, reports, applications, letters, telegrams and other documents connected with or in any manner relating to the retirement of Amasa E. Killam, an official of the Intercolonial Railway, from the employment of the said railway, and to his claim for a retiring allowance, under the provisions of the Intercolonial and Prince Edward Island Railway Employees' Provident Fund Act; and also of all letters showing the date of his beginning work in the service of the said railway and of his appointment to a position in the employ of said railway on the first of April, 1897, or at any other date. Also a copy of all instructions and letters from the then Minister of Railways to the general manager or to any other official of the Intercolonial, relating to engagement or employment of the said Amasa E. Killam, and of all letters, correspondence, instructions, reports, or other documents in any way relating thereto and to the engagement of the said Amasa E. Killam, during the month of March, 1897, to take the position of bridge and building inspector on the Intercolonial Railway, to commence work on the first day of April, 1897. Presented April 1, 1914.—*Mr. Emmerson...Not printed.*

**230.** Return to an Order of the House of the 23rd February, 1914, for a copy of all letters, papers and other documents relating to the payments made at Skinners Cove, Pictou County, for purchase of land or other rights in the year 1913. Presented April 2, 1914.—*Mr. Macdonald* .....*Not printed.*

**231.** Return to an Order of the House of the 2nd February, 1914, for a copy of all papers, correspondence, telegrams, letters, pay rolls, accounts and vouchers in any way referring to the expenditure of money by this Government for the public wharf at Whycocomagh. Presented April 2, 1914.—*Mr. Maclean (Halifax).....Not printed.*

**231*a*.** Return to an Order of the House of the 2nd February, 1914, for a copy of all papers, advertisements, tenders, bids, contracts, reports, vouchers, accounts, receipts, correspondence, &c., in connection with the construction of a wharf at Feltzen South, Lunenburg County, N.S., now under construction or recently completed. Presented April 2, 1914.—*Mr. Chisholm (Inverness).....Not printed.*

**231*b*.** Return to an Order of the House of the 4th March, 1914, for a return showing:—

1. How much money was expended on the repairs to the wharf at South Gut, Victoria County, during the summer of 1913?
2. How much on labour and how much on material, respectively?
3. Who was the foreman, by whom recommended, and his rate of wages per day?
4. How many days he was employed as foreman?
5. How many men he had working for him on the wharf each day, and the wages paid each man?
6. How much was paid for material for the repairs, and where it was obtained?
7. From whom the material was purchased, the nature of it, and the price paid per foot?
8. Who was the paymaster on this work and when the men were paid? Presented April 2, 1914.—*Mr. McKenzie.....Not printed.*

**231*c*.** Return to an Order of the House of the 9th February, 1914, for a return showing the amount expended by the Government on wharfs, breakwaters, public works and dredging in the County of Yarmouth since October 11, 1911; and to whom the amounts so expended were paid. Presented April 2, 1914.—*Mr. Law....Not printed.*

**231*d*.** Return to an Order of the House of the 4th March, 1914, for a return showing:—

1. How much money was expended on repairs to the Englishtown wharf, County of Victoria, in the summer of 1913?
2. How much on labour and how much on material, respectively?
3. Who was the foreman, by whom he was recommended, and his rate of wages per day?
4. How many days he was employed as foreman?
5. How many men he had working for him on the wharf each day, and the wages paid each man?

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6. From whom the material was purchased, of what it consisted, and the price paid per foot?

7. Who was the paymaster on this work, and when the men were paid?

8. When the work was begun and when completed? Presented April 2, 1914.—*Mr. McKenzie* .....*Not printed.*

**231e.** Return to an Order of the House of the 16th February, 1913, for a copy of all letters, telegrams, correspondence, pay-rolls, vouchers and documents of all kinds connected in any way with repairs or extension of wharf at Finlay Point, Mabou, Inverness County, during the year 1910-1911. Presented April 2, 1914.—*Mr. Chisholm (Inverness)* .....*Not printed.*

**231f.** Return to an Order of the House of the 4th March, 1914, for a return showing the amount of timber used and the price paid for same in renewing and repairing the wharf at Port Clyde, Shelbourne County, N.S.; the amount of wages paid on same, and to whom; and the number and price of ballast poles used in the above work. Presented April 2, 1914.—*Mr. Law*.....*Not printed.*

**231g.** Return to an Order of the House of the 12th May, 1913, for a copy of all papers, telegrams, documents, reports, correspondence, &c., in any way relating to a proposed extension of a wharf or the construction of a new wharf at Finlay Point, Inverness County, N.S. Presented April 2, 1914.—*Mr. Chisholm (Inverness)*.....*Not printed.*

**231h.** Return to an Order of the House of the 26th May, 1913, for a copy of all papers, letters and documents relating to the building of a wharf in the town of L'Assomption. Presented April 2, 1914.—*Mr. Seguin* .....*Not printed.*

**231i.** Return to an Address of the 19th May, 1913, to His Excellency the Administrator for a copy of all papers, tenders, contracts, accounts, and Orders in Council, between the Department of Public Works and any other person or persons, relating to the purchase of a site for the public wharf being erected or recently erected at Bear River, N.S., and also relating to the construction of said wharf, and anything in connection therewith. Presented April 2, 1914.—*Mr. Maclean (Halifax)*.....*Not printed.*

**231j.** Return to an Order of the House of the 31st March, 1913, for a copy of all papers, documents, correspondence, &c., relating to the purchase of a property at Centreville, Shelburne County, Nova Scotia, as a site for a public wharf, and in connection with any monies expended on the McGray property at Centreville, upon the public wharf. Presented April 2, 1914.—*Mr. Kyte*..... *Not printed.*

**231k.** Return to an Order of the House of the 9th March, 1914, for a copy of all correspondence, letters, telegrams, notes, requests, &c., addressed to the Department or the Minister of Public Works, directly or indirectly, in connection with the work necessary for the completion of the wharf at Sainte Croix, County of Lotbinière, since the 21st of September, 1911, to date. Presented April 16, 1914.—*Mr. Fortier*.....*Not printed.*

**231l.** Return to an Order of the House of the 2nd February, 1914, for a copy of all correspondence, petitions, memorials, letters, reports, and telegrams, in the Department of Public Works, or in any of the Departments of the Government, relating to a proposed wharf or breakwater at Little Cape, and Great Shemogue Harbour, Westmorland County, N.B.; also of all correspondence, letters and telegrams exchanged between any member of the Government and M. G. Siddal, or any other persons or corporations, relating to a proposal or application to construct a wharf or breakwater at Little Cape or Great Shemogue Harbour in Westmorland County, N.B., or in connection with having a survey made in connection with any such proposal. Presented April 17, 1914.—*Mr. Emmerson* ..... *Not printed.*

**231m.** Return to an Order of the House of the 9th February, 1914, for a copy of all reports, memoranda, correspondence and documents of every nature, relating to the construction of a wharf in the town of L'Assomption, and of all petitions and correspondence in favour or against such construction to date, and the reasons why the construction of such wharf, authorized in the estimates of 1911-1912, has not been proceeded with. Presented April 17, 1914.—*Mr. Seguin*.....*Not printed.*

**231n.** Return to an Order of the House of the 16th March, 1914, for a copy of all accounts, vouchers, pay-rolls, instructions, correspondence and recommendations relating to the expenditure on the public wharf at Arichat, N.S., since the 11th day of October, 1911. Presented April 30, 1914.—*Mr. Kyte*.....*Not printed.*

**231o.** Return to an Order of the House of the 16th February, 1914, for a copy of all tenders, contracts, memorandums, pay-rolls, accounts, vouchers, correspondence, papers and documents, &c., in connection with work performed upon the Government wharf at Croft's Cove, Lunenburg County, in 1912. Presented April 30, 1914.—*Mr. Maclean (Halifax)* .....*Not printed.*

**231p.** Return to an Order of the House of the 9th March, 1914, for a copy of all correspondence, letters, telegrams, petitions and other documents relating to the claim of the Bonaventure and Gloucester Interprovincial Company, Limited, in connection wtih a wharf on Bonaventure river, Bonaventure County. Presented April 30, 1914.—*Mr. Sevigny.* *Not printed.*

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**231q.** Supplementary Return to an Order of the House of the 9th March, 1914, for a copy of all correspondence, letters, telegrams, notes, requests, &c., addressed to the Department or the Minister of Public Works, directly or indirectly, in connection with the work necessary for the completion of the wharf at Sainte Croix, County of Lotbinière, since the 21st September, 1911, to date. Presented April 30, 1914.—*Mr. Fortier*.....*Not printed.*

**231r.** Return to an Order of the House of the 2nd February, 1914, for a copy of all tenders, contracts, pay rolls, vouchers, documents, correspondence, &c., in connection with the purchase of a site for the Government wharf at Bear River, N.S., and the construction of the said wharf. Presented April 30, 1914.—*Mr. Maclean (Halifax)*..*Not printed.*

**231s.** Return to an Order of the House of the 9th March, 1914, for a return showing:—

1. How much was spent upon Hall's Harbour wharf, Kings County, N.S., in 1913?
2. The name of the commissioner or foreman, by whom he was recommended, and his remuneration?
3. How much lumber was used upon the said wharf during 1913, from whom the same was purchased, and the price paid for the various forms thereof. Presented April 30, 1914.—*Mr. Maclean (Halifax)*.....*Not printed.*

**231t.** Return to an Order of the House of the 16th February, 1914, for a copy of the pay-list, including the names and residences, of all those who have worked at the wharf of L'Ile Verte, County of Témiscouata; the number of days of employment of each of them; the amount received by each of them; who has or have signed the receipt or receipts for said amounts, in connection with the works which have been going on during the summer of 1912 and during the summer of 1913. Presented April 30, 1914.—*Mr. Gauvreau* .....*Not printed.*

**231u.** Return to an Order of the House of the 16th February, 1914, for a copy of the pay-list, including the names and residences, of the men who have worked on the wharf to the west of Rivière-Verte, Témiscouata; the number of days' work of each of them; the amount of money received by each of them; who has or have signed the receipt or receipts for said amounts on said pay-list or otherwise, the whole for: (1o) 1912; (2o) 1913. Presented May 4, 1914.—*Mr. Gauvreau*.....*Not printed.*

**231v.** Further Supplementary Return to an Order of the House of the 9th Mrach, 1914, for a copy of all correspondence letters, telegrams, notes, requests, &c., addressed to the Department or the Minister of Public Works, directly or indirectly, in connection with the work necessary for the completion of the wharf at Sainte Croix, County of Lotbinière, since the 21st of September, 1911, to date. Presented May 4, 1914.—*Mr. Fortier* .....*Not printed.*

**231w.** Return to an Order of the House of the 30th March, 1914, for a copy of all letters and telegrams addressed by G. A. R. Rowlings and J. S. Wells to the Department of Public Works, or the Minister, since October 1, 1911, relating to the construction of a public wharf at Cole Harbour, Guysborough County, N.S., and of all replies thereto. Presented May 12, 1914.—*Mr. Sinclair*.....*Not printed.*

**231x.** Return to an Order of the House of the 16th February, 1914, for a copy of all letters, telegrams and correspondence of all kinds in any way relating to repairs required on the pier at Margaree Harbour, Inverness County, received in 1912-1913 and 1913-1914. Presented May 12, 1914.—*Mr. Chisholm (Inverness)* .....*Not printed.*

**231y.** Return to an Order of the House of the 27th April, 1914, for a copy of all correspondence, pay-rolls, accounts, receipts, vouchers and papers relating to the construction of Feltzen South wharf, Lunenburg County, N.S. Presented May 16, 1914.—*Mr. Maclean (Halifax)* .....*Not printed.*

**231z.** Return to an Order of the House of the 2nd February, 1914, for a copy of all papers, correspondence, telegrams, letters, pay-rolls, accounts and vouchers in any way referring to the expenditure of money by this Government for the building and repair of the public wharf at Port Hood. Presented May 16, 1914.—*Mr. Chisholm (Inverness)* *Not printed.*

**231 (2a).** Return to an Order of the House of the 4th May, 1914, for a copy of all correspondence, telegrams, complaints, pay-rolls, vouchers and all other documents in any way connected with the expenditure of $500 during the year 1913 on Finlay Point wharf, Inverness County. Presented May 16, 1914.—*Mr. Chisholm (Inverness)*..*Not printed.*

**231 (2b).** Return to an Order of the House of the 6th April, 1914, for a copy of all correspondence, letters, telegrams, petitions and recommendations relating to the wharf at Arichat, N.S., to be used by SS. *Magdalin*. Presented May 29, 1914.—*Mr. Kyte*....*Not printed.*

**231 (2c).** Return to an Order of the House of the 9th March, 1914, for a return showing:—

1. How much money was spent upon Kingsport Pier, Kings County, N.S., during the year 1913?
2. The name of the foreman or commissioner, by whom he was recommended, and the remuneration paid him?
3. How much lumber was purchased and used for said pier, from whom it was purchased, and the particulars of the prices paid therefor?
4. What was done with the lumber or piling taken out of said pier, and if the same was sold, to whom and at what price? Presented May 29, 1914.—*Mr. Maclean (Halifax)* .....*Not printed.*

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**231** (2*d*). Return to an Order of the House of the 27th April, 1914, for a copy of all correspondence, pay-rolls, accounts, receipts, vouchers and papers relating to the construction of Kraut Point wharf, Lunenburg County, N.S. Presented June 12, 1914.—*Mr. Maclean (Halifax)* ..... *Not printed.*

**232.** Return to an Order of the House of the 4th March, 1914, for a return showing:—

1. How much money has been expended in public works in the Counties of Rimouski and Gaspé, respectively, since October 11, 1911.

2. How much of the money so expended was provided for in the estimates of 1911-1912?

3. What amount was expended on the works for which money was not included in the estimates of 1911-1912? Presented April 2, 1914.—*Mr. Marcil (Bonaventure).* *Not printed.*

**232***a*. Return to an Order of the House of the 23rd February, 1914, for a return showing how much money has been expended on public works in Antigonish County since October 11, 1911.

2. How much of the amount so expended was provided in the estimates for 1911-1912?

3. What amount, not included in the estimates for 1911-1912, was expended on public works in said county? Presented April 2, 1914.—*Mr. Chisholm (Antigonish).*

**232***b*. Return to an Order of the House of the 9th February, 1914, for a copy of all papers, reports, documents, correspondence, plans, &c., in reference to a proposed Government public building at Bear River, N.S., and the purchase of a site for the same. Presented April 2, 1914.—*Mr. Maclean (Halifax)* ..... *Not printed.*

**232***c*. Return to an Order of the House of the 9th April, 1913, for a copy of all charges, correspondence, pay-rolls, telegrams and other documents relating in any way to the expenditure of money on the harbour improvements at Mabou Harbour by the Department of Public Works, during the years 1911-12, 1912-13. Presented April 2, 1914.—*Mr. Chisholm (Inverness)* ..... *Not printed.*

**232***d*. Return to an Order of the House of the 28th May, 1913, was issued to the proper officer for a copy of the specifications and tenders for materials to be used in connection with the proposed dry dock at Lauzon, Quebec. Presented April 2, 1914.—*Mr. Lemieux.* *Not printed.*

**232***e*. Return to an Order of the House of the 3rd March, 1913, for a copy of all documents, letters, reports of engineers and statements of detailed expenditure in connection with dredging at Bonaventure River, Quebec. Presented April 2, 1914.—*Mr. Marcil (Bonaventure)* ..... *Not printed.*

**232***f*. Return to an Order of the House of the 3rd March, 1913, for a copy of all petitions, correspondence, reports or other papers or documents in the Department of Public Works relating to the building of a breakwater at Goulman's Point, Half Island Cove, Guysboro' County, N.S. Presented April 2, 1914.—*Mr. Sinclair*..... *Not printed.*

**232***g*. Return to an Order of the House of the 16th February, 1914, for a copy of all letters, telegrams, correspondence and documents of all kinds in any way relating to a lighthouse to be built at Red Cape, Margaree Harbour, Inverness County. Presented April 7, 1914.—*Mr. Chisholm (Inverness)* ..... *Not printed.*

**232***h*. Return to an Order of the House of the 2nd February, 1914, for a copy of all papers, documents, telegrams, correspondence, &c., in reference to the purchase of a site in Saskatoon for a post office building. Presented April 16, 1914.—*Mr. McCraney.* *Not printed.*

**232***i*. Return to an Order of the House of the 9th February, 1914, for a copy of all correspondence, reports, petitions and documents exchanged by and with the Department of Public Works since the 1st of September, 1911, to date, with the reasons why the construction of the public building, authorized in the town of St. Lin Des Laurentides, County of L'Assomption, as per the estimates of 1911-1912, has not been proceeded with. Presented April 17, 1914.—*Mr. Seguin* ..... *Not printed.*

**232***j*. Return to an Order of the House of the 2nd February, 1914, for all correspondence, reports and documents exchanged by and with the Department of Public Works from October, 1911, to date, regarding the non-erection of the public building authorized to be erected at New Carlisle, the county seat of Bonaventure County, in the estimates of 1911-1912. Presented April 17, 1914.—*Mr. Marcil (Bonaventure)*..... *Not printed.*

**232***k*. Return to an Order of the House of the 2nd February, 1914, for a return showing the names of all persons who worked on Lingan Bar, South Cape Breton, under Superintendent H. D. McLean, the wages paid to each per diem, the amount paid each or payable to each, and showing generally how the amount voted for such work was expended, and the amount received by H. D. McLean in connection with said work. Presented April 17, 1914.—*Mr. Carroll* ..... *Not printed.*

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**232***l*. Return to an Order of the House of the 2nd February, 1914, for a copy of all papers, advertisements, tenders, contracts, papers, telegrams, correspondence, returns, reports, accounts, vouchers, receipts, &c., in connection with any dredging performed by the Nova Scotia Dredging Company, or any other company, corporation or individuals, at Jeddore, Halifax County, N.S., in the years 1912 and 1913. Presented April 17, 1914. —*Mr. Maclean (Halifax)*.....*Not printed.*

**232***m*. Return to an Order of the House of the 12th May, 1913, for a copy of all papers, telegrams, documents, reports, correspondence, pay-rolls, &c., in any way relating to a life-saving station which was constructed at Cheticamp, during 1912. Presented April 28, 1914.—*Mr. Chisholm (Inverness)*.....*Not printed.*

**232***n*. Return to an Order of the House of the 12th March, 1914, for a return showing:—

1. What firms or persons are or have been engaged in dredging for the Government in the harbour of St. John and upon the St. John river and its tributaries since October 1, 1911.

2. What amount has been paid to each firm or person for this work from October 1, 1911, to the present time?

3. Who are the officers, president, manager and secretary of each of these corporations? Presented April 30, 1914.—*Mr. Carvell*.....*Not printed.*

**232***o*. Return to an Order of the House of the 16th February, 1914, for a copy of all documents bearing on the repairing and improvement of the Metapedia Road in the Counties of Rimouski and Bonaventure. Presented April 30, 1914.—*Mr. Marcil (Bonaventure)*. *Not printed.*

**232***p*. Return to an Order of the House of the 12th March, 1914, for a return showing:—

1. What tug boats, steam or gasoline tenders, have been employed by the Government since September 21, 1911, in connection with the dredging operations in St. John harbour and in the River St. John and its tributaries?

2. Who are the registered owners of these boats and from whom each is hired?

3. The sum paid per day for each tug boat or tender and how many days each has worked in the period referred to.

4. What amount of money has been paid for the service of each boat in the period referred to and to whom it has been paid. Presented April 30, 1914.—*Mr. Carvell.* *Not printed.*

**232***q*. Return to an Order of the House of the 9th March, 1914, for a return showing the details as to the nature of the work concerning the damming of the Chateauguay river, the number of men employed, their names, the wages paid in each case and the period of their employment during the calendar year 1913. Presented April 30, 1914.—*Mr. Lemieux*.....*Not printed.*

**232***r*. Return to an Order of the House of the 16th March, 1914, for a copy of all letters, telegrams, correspondence, reports, petitions, and communications filed in the Department of Public Works since 1910, relating to the dredging of Antigonish harbour, or the straightening or widening of the channel, or other improvements proposed to be made there. Presented April 30, 1914.—*Mr. Chisholm (Antigonish)*.....*Not printed.*

**232***s*. Return to an Order of the House of the 23rd March, 1914, for a copy of all letters, papers and other documents relative to the purchase of a lot of land in the town of Stellarton, for a public building. Presented April 30, 1914.—*Mr. Macdonald*.....*Not printed.*

**232***t*. Return to an Order of the House of the 2nd February, 1914, for a copy of all papers, correspondence, telegrams, letters, pay-rolls, accounts, and vouchers in any way referring to the expenditure of money by this Government in the construction of the new telegraph or telephone line from Baddeck, Victoria County, N.S. ,to North East Margaree, Inverness County, N.S., thence to Big Intervale, Inverness County, N.S., and also in connection with the lines from South West Margaree to Loch Ban, and from Scotsville to Whycocomagh, all in Inverness County, N.S. Presented May 4, 1914.—*Mr. Chisholm (Antigonish)*.....*Not printed.*

**232***u*. Return to an Order of the House of the 2nd February, 1914, for a copy of all papers, documents, telegrams, correspondence, &c., in reference to the purchase of a property or site on Gottingen street, Halifax, for the erection of a post office building. Presented May 4, 1914.—*Mr. Maclean (Halifax)*.....*Not printed.*

**232***v*. Return to an Order of the House of the 16th March, 1914, for a return showing all payments made in the year 1913 in connection with repairs done to, or moneys expended on, the Blue Rock breakwater in Antigonish County, with the names of the persons to whom such payments were made, the amount paid to each, and what such amounts were for. Presented May 4, 1914.—*Mr. Chisholm (Antigonish)*.....*Not printed.*

**232***w*. Return to an Order of the House of the 9th March, 1914, for a copy of all papers, documents, correspondence, &c., from any person or persons in connection with the purchase of the site for the post office at Canning, N.S. Presented May 4, 1914.—*Mr. Maclean (Halifax)*.....*Not printed.*

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**232*x***. Return to an Order of the House of the 2nd February, 1914, for a copy of all tenders received for the construction of a lighthouse at Grand Anse, Gloucester County, N.B., and of the contract awarded. Presented May 5, 1914.—*Mr. Turgeon*.....*Not printed.*

**232*y***. Return to an Order of the House of the 16th February, 1914, for a copy of all papers, letters, telegrams, reports, deeds, fees paid to lawyers, and other documents relative to the purchasing of land from Mrs. C. F. Bertrand and Arthemise Dionne, in connection with the works on the southwest side of Rivière-Verte, l'Islet, County of Témiscouata. Presented May 5, 1914.—*Mr. Gauvreau* .....*Not printed.*

**232*z***. Return to an Order of the House of the 20th April, 1914, for a copy of all correspondence between the Minister of Public Works, the Minister of Justice, or any other member of the Government, and any person or persons, relating to the location and erection of the new post office in the village of Eganville, County of Renfrew. Presented May 5, 1914.—*Mr. Graham* .....*Not printed.*

**232** (2*a*). Return to an Order of the House of the 16th March, 1914, for a copy of all correspondence, documents, recommendations and reports, respecting the dredging of Des Prairies river, the work done, depth, length and width of channel dredged, the list of men employed to perform that work, their salaries respectively, and the amount of money spent on that work since the 22nd of November, 1912, up to the 2nd of February, 1914. Presented May 7, 1914.—*Mr. Wilson* (*Laval*) .....*Not printed.*

**232** (2*b*). Return to an Order of the House of the 6th April, 1914, for a copy of all letters, telegrams, correspondence, complaints, bills, accounts, vouchers, receipts and any documents in any way connected with the expenditure of money at Friar's Head Boat Harbour by Simon P. Doucet, during the years 1912-13, 1913-14. Presented May 7, 1914.—*Mr. Chisholm* (*Inverness*) .....*Not printed.*

**232** (2*c*). Return to an Order of the House of the 16th February, 1914, for a copy of all papers in connection with the public building at Gravelburg, from and since January 1, 1912. Presented May 7, 1914.—*Mr. Knowles* .....*Not printed.*

**232** (2*d*). Return to an Order of the House of the 23rd March, 1914, for a copy of all specifications and of all tenders pertaining to the Brantford public building now being erected, and of the contract awarded, and of all correspondence, whether by letter or telegram, with reference thereto. Presented May 7, 1914.—*Mr. Nesbitt*.....*Not printed.*

**232** (2*e*). Return to an Address to His Royal Highness the Governor General of the 9th February, 1914, for a copy of all correspondence, telegrams, petitions and memorials received by the Right Honourable R. L. Borden, Premier of Canada, or any other Minister of the Crown since the first day of October, 1911, from J. A. Gillies, Esq., N.S., or any resident of the County of Richmond, N.S., relative to expenditure of public money on public works in the said County of Richmond. Presented May 8, 1914.—*Mr. Kyte.* *Not printed.*

**232** (2*f*). Supplementary Return to an Order of the House of the 20th April, 1914, for a copy of all correspondence betewen the Minister of Public Works, the Minister of Justice or any other member of the Government, and any person or persons, relating to the location and erection of the new post office in the village of Eganville, County of Renfrew. Presented May 8, 1914.—*Mr. Graham* .....*Not printed.*

**232** (2*g*). Return to an Order of the House of the 2nd February, 1914, for a return showing the dredging operations carried on in Bonaventure County in 1913, together with a copy of estimates, reports, and correspondence. Presented May 11, 1914.—*Mr. Marcil.* *Not printed.*

**232** (2*h*). Return to an Order of the House of the 9th February, 1914, for a copy of all correspondence and other documents in reference to the erection of a customs building in the village of Chesley, Riding of South Bruce. Presented May 12, 1914.—*Mr. Truax.* *Not printed.*

**232** (2*i*). Return to an Order of the House of the 6th April, 1914, for a copy of all accounts and vouchers covering the expenditure during the calendar year 1913 at South Lake, Lakevale, Antigonish County, and showing in detail, the persons to whom such payments were made, what such payments were for, the number of day labourers employed, and the rate of wages, the quantity of material used and the price paid therefor, the quantity of material hauled to the work and not used, and the persons supplying such material. Presented May 12, 1914.—*Mr. Chisholm* (*Antigonish*). *Not printed.*

**232** (2*j*). Return to an Order of the House of the 23rd February, 1914, for a copy of all letters, papers, telegrams, valuations, appraisals and other documents relative to the obtaining of a site for a public building at Hantsport, Nova Scotia. Presented May 12, 1914.—*Mr. Macdonald* .....*Not printed.*

**232** (2*k*). Return to an Order of the House of the 11th February, 1914, for a copy of all correspondence, letters, telegrams, reports, appraisals and other documents relative to the expropriation of the lands of John Campbell and Albert E. Milligan, in connection with the improvements on the East River at Pictou. Presented May 12, 1914.—*Mr. Macdonald* .....*Not printed.*

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**232** (2*l*). Return to an Order of the House of the 16th March, 1914, for a copy of all papers, letters and other documents, including pay-lists relating to the expenditure of moneys by the Public Works Department on Falmouth Township Dyke, Hants County, in 1913. Presented May 12, 1914.—*Mr. Macdonald*.....*Not printed.*

**232** (2*m*). Return to an Order of the House of the 16th March, 1914, for a copy of all accounts, vouchers, pay-rolls, instructions, correspondence and recommendations relating to the expenditure on the public building at Arichat, N.S., since the 11th day of October, 1911. Presented May 16, 1914.—*Mr. Kyte*.....*Not printed.*

**232** (2*n*). Return to an Order of the House of the 4th March, 1914, for a copy of all correspondence and other documents in connection with the letting of the construction for the Toronto harbour works. Presented May 16, 1914.—*Mr. Pardee*.....*Not printed.*

**232** (2*o*). Return to an Order of the House of the 2nd February, 1914, for a return showing the nature and cost of works carried on in the County of Bonaventure by the Department of Public Works since October 10, 1911, to date, together with a copy of all reports, estimates, pay-lists, and correspondence in connection therewith. Presented May 27, 1914.—*Mr. Marcil (Bonaventure)*.....*Not printed.*

**232** (2*p*). Return to an Order of the House of the 23rd March, 1914, for a copy of all correspondence, documents, recommendations and reports respecting the dredging at Port Elgin, Westmorland County, N.B., with the names of men employed to perform that work, their salaries, respectively, and the amount of money spent on the same from January 1, 1901, to January 1, 1914. Presented May 27, 1914.—*Mr. Robidoux.*
*Not printed.*

**232** (2*q*). Further Supplementary Return to an Order of the House of the 20th April, 1914, for a copy of all correspondence between the Minister of Public Works, the Minister of Justice, or any other member of the Government, and any person or persons, relating to the location and erection of the new post office in the village of Eganville, County of Renfrew. Presented May 27, 1914.—*Mr. Graham*.....*Not printed.*

**232** (2*r*). Return to an Order of the House of the 16th February, 1914, for a copy of all papers in connection with the Immigration Hall at Gravelburg, Sask., from and since the 1st January, 1912. Presented June 1, 1914.—*Mr. Knowles*.....*Not printed.*

**232** (2*s*). Return to an Order of the House of the 2nd February, 1914, for a copy of all advertisements, tenders, accounts, vouchers, letters, documents and correspondence relating to the construction of a breakwater at The Graff, Halifax County, N.S. Presented June 2, 1914.—*Mr. Maclean (Halifax)*.....*Not printed.*

**232** (2*t*). Return to an Order of the House of the 23rd February, 1914, for a copy of all letters, telegrams, correspondence, contracts and documents relating to the surrender of a contract for dredging in Miramichi Bay, N.B., by Messrs. A. and R. Loggie, and also with reference to the letting of a contract for the same, or any portion of said work, to the Northern Dredging Company; together with a copy of all notices for tenders, tenders and contracts in connection therewith. Presented June 2, 1914.—*Mr. Carvell.*
*Not printed.*

**232** (2*u*). Return to an Order of the House of the 6th April, 1914, for a copy of all letters, telegrams, documents, papers, &c., in connection with the purchase by the Government of lots 1 and 2, block 125, plan 96, in the city of Moosejaw, for an examining warehouse site. Presented June 2, 1914.—*Mr. Knowles*.....*Not printed.*

**232** (2*v*). Return to an Order of the House of the 16th February, 1914, for a copy of all letters, telegrams, correspondence of all kinds, pay-rolls, vouchers, &c., in any way referring to the expenditure of moneys on sheer dams on the Margaree river, at Margaree and North East Margaree, during 1911-1912 and 1912-1913. Presented June 2, 1914.—*Mr. Chisholm (Inverness)*.....*Not printed.*

**233.** Return to an Order of the House of the 24th April, 1913, for a return showing what officers and men were employed on the dredge *Northumberland* at Pictou in the months of January, February and March, 1913, and the salaries and wages paid to them respectively; the amounts paid for repairs and supplies respectively, for said dredge during said months and to whom paid respectively. Presented April 2, 1914.—*Mr. Macdonald.*
*Not printed.*

**234.** New Lobster Fishery Regulations established by Order in Council of the 25th March, 1914, in lieu of those established by Order in Council of the 30th September, 1910, and all amendments thereto, by virtue of the provisions of Section 54 of the Fisheries Act, chapter 45 of the Revised Statutes of Canada, 1906. Presented by Hon. Mr. Hazen, April 7, 1914.....*Not printed.*

**235.** Return to an Order of the House of the 23rd March, 1914, for a return showing:—
1. How many engineers there are in the employ of the Intercolonial Railway at Moncton and at other points on that railway, and their names?
2. How many were formerly in the employ of the Canadian Pacific Railway Company?
3. Whether Martin Murphy, C.E., is employed in the service of that railway. If so, when he was employed and what his age is? Presented April 7, 1914.—*Mr. Emmerson*.....*Not printed.*

## CONTENTS OF VOLUME 28—*Continued.*

**236.** Return to an Order of the House of the 30th March, 1914, for a return showing the travelling expenses paid by the Government to the Honourable Rodolphe Roy, Judge of the Superior Court at Rimouski, during the years 1912-1913 and 1914, for trips from Quebec to Rimouski and return. Presented April 8, 1914.—*Mr. Boulay*.....*Not printed.*

**237.** Return to an Order of the House of the 23rd March, 1914, for a return showing:—

1. The names of the lawyers who represented the Department of Justice in the district of Quebec, since the 21st September, 1911.

2. The amount of money paid to each of them. Presented April 8, 1914.—*Mr. Lapointe* (*Kamouraska*) .....*Not printed.*

**238.** Return to an Order of the House of the 4th February, 1914, for a copy of all letters, telegrams and documents generally concerning the withdrawal of an appeal in the Supreme Court of Canada, in the case of His Majesty the King, appellant, and Alfred Olivier Falardeau and Constant Napoleon Falardeau, respondents. Presented April 8, 1914.—*Mr. Lemieux* .....*Not printed.*

**239.** Return to an Order of the House of the 16th March, 1914, for a copy of all transfers of lands by the Militia Department to the Harbour Commissioners of Montreal, and of all correspondence with regard to the same. Presented April 15, 1914.—*Mr. Carvell.*
*Not printed.*

**240.** Return to an Order of the House of the 2nd March, 1914, for a return showing:—

1. The quantities of wheat, by grade, received into the terminal elevators at Fort William and Port Arthur, from the date of the weigh-up in 1910, to date of weigh-up in 1911, the same for 1911-1912, and the same for 1912-1913.

2. The quantities, by grade, delivered by each of the said elevators during the same periods.

3. The average or shortage, as the case may be, of each grade in each of the said elevators, as shown by the said weigh-ups in each of those above mentioned periods.

4. The date of the weigh-up in each case. Presented April 15, 1914.—*Mr. Neely.*
*Not printed.*

**241.** Return to an Order of the House of the 2nd March, 1914, for a copy of all rules, orders and regulations, &c., affecting the handling of grain made by the Grain Commission to date, and of any changes made in elevator charges and terms, if any. Presented April 15, 1914.—*Mr. Neely* .....*Not printed.*

**242.** Return to an Order of the House of the 6th April, 1914, for a copy of the new rules and regulations in regard to employees of the Intercolonial Railway and Prince Edward Island Railways. Presented April 15, 1914.—*Mr. Macdonald*.....*Not printed.*

**243.** Return to an Address to His Royal Highness the Governor General of the 30th March, 1914, for a copy of all correspondence, petitions, lists of shareholders, Orders in Council, licenses, certificates and other papers and documents, and of all renewals thereof, relating to the incorporation and licensing of the Banque St. Jean, the Banque Ville Marie and the Banque Jacques Cartier, all in the Province of Quebec. Presented April 16, 1914.—*Mr. Demers* .....*Not printed.*

**243*a*.** Return to an Address to His Royal Highness the Governor General of the 23rd March, 1914, for a copy of all correspondence, petitions, lists of shareholdres, Orders in Council, licenses, certificates and other papers and documents and all renewals thereof, relating to the incorporation and licensing of the Bank of Yarmouth, and of all papers and documents relating to the winding up of the business of the said bank. Presented April 16, 1914.—*Mr. Law*.....*Not printed.*

**243*b*.** Return to an Address to His Royal Highness the Governor General, of the 16th March, 1914, for a copy of all correspondence, petitions, lists of shareholdres, Orders in Council, licenses, certificates and other papers and documents and all renewals thereof, relating to the incorporation and licensing of the Pictou Bank, and of all papers and documents relating to the winding up of the business of the said bank. Presented April 30, 1914. —*Mr. Macdonald* .....*Not printed.*

**244.** Return to an Order of the House of the 23rd March, 1914, for a cpoy of the reports made by Colin F. McKinnon, of Taylor's Road, Antigonish County, Frank A. McEchen, of Inverness, N.S., John A. McDougall of Glace Bay, C.B., J. M. McDonald, of Christmas Island, C.B., William Watkins of Cobourg Road, Halifax, S. P. Fream, of Brighton, Digby County, and J. J. Walker of Truro, N.S., special immigration agents appointed from the Province of Nova Scotia. Presented April 16, 1914.—*Mr. Chisholm* (*Antigonish*) .....*Not printed.*

**245.** Return to an Address to His Royal Highness the Governor General of the 4th February, 1914, for a copy of all correspondence and papers generally concerning the proposed changes of the Judicial Committee of the Privy Council. Presented April 16, 1914.—*Mr. Lemieux* .....*Not printed.*

## CONTENTS OF VOLUME 28—*Continued.*

**246.** Return to an Order of the House of the 2nd March, 1914, for a return giving the following information, as far as may be available, respecting the constitution of Upper Chambers or Senates within the British Empire and in foreign countries, and especially such information in respect of the self-governing Dominions and of foreign countries possessing a federal system of Government:—

1. As to the method of appointment, whether by executive authority or by election by the people, or otherwise.
2. As to the term of appointment, whether for life or for a term of years, or toherwise.
3. As to a re-appointment or re-election, and generally as to the filling of vacancies occasioned by death or otherwise.
4. As to qualifications, whether by age, residence, possession of real or personal property or otherwise.
5. As to limitation of the membership, and as to the numerical relation of the membership to that of the Lower House.
6. As to provisions for dissolution, appeal to the electorate, conferences or additional appointments in case of disagreement between the Upper and Lower House.
7. As to the operation of the various systems in the several Dominions and countries mentioned, and in what respect defects or difficulties have made themselves manifest.
8. All other relevant information respecting the constitution and status of such Upper Chambers. Presented April 16, 1914.—*Mr. Middlebro.*

*Printed for sessional papers only.*

**246*a*.** Further Supplementary Return to an Order of the House of the 2nd March, 1914, for a return giving the following information, as far as may be available, respecting the constitution of Upper Chambers or Senates within the British Empire and in foreign countries, and especially such information in respect of the self-governing Dominions and of foreign countries possessing a federal system of Government:—

1. As to the method of appointment, whether by executive authority or by election by the people, or otherwise.
2. As to the term of appointment, whether for life or for a term of years, or otherwise.
3. As to a re-appointment or re-election, and generally as to the filling of vacancies occasioned by death or otherwise.
4. As to qualifications, whether by age, residence, possession of real or personal property or otherwise.
5. As to limitation of the membership, and as to the numerical relation of the membership to that of the Lower House.
6. As to provisions for dissolution, appeal to the electorate, conferences or additional appointments in case of disagreement between the Upper and Lower Houses.
7. As to the operation of the various systems in the several Dominions and countries mentioned, and in what respect defects or difficulties have made themselves manifest.
8. All other relevant information respecting the constitution and status of such Upper Chambers. Presented June 10, 1914.—*Mr. Middlebro....*

*Printed for sessional papers only.*

**247.** Return to an Order of the House of the 1st April, 1914, for a return showing:—

1. What it has cost the Government for bottled and distilled water in Ottawa since January 1, 1912, to March 1, 1914?
2. What it is costing the Government per day now for bottled and distilled water? Presented April 16, 1914.—*Mr. Sexsmith*.....*Not printed.*

**248.** Return to an Order of the House of the 11th February, 1914, for a copy of all papers, letters, telegrams, reports and other documents relative to the purchase of land from Joseph Fraser, in connection with the works at Cariboo Island, Pictou County, in the Public Works Department. Presented April 16, 1914.—*Mr. Macdonald....Not printed.*

**249.** Return to an Order of the House of the 21st May, 1913, for a copy of all correspondence exchanged during the year 1912, between Captain Belanger, commandant of the *Eureka* and the Department of Marine and Fisheries, both at Quebec and Ottawa. Presented April 16, 1914.—*Mr. Boulay* .....*Not printed.*

**250.** Return to an Order of the House of the 23rd March, 1914, for a return showing:—

1. The names of the wharfingers at Coteau Landing from 1900 to 1914.
2. The names of the vessels which moored there during that period.
3. What wharfage each of those vessels paid during that time?
4. What wharfage a coaler paid for unloading between 1900 and 1912? Presented April 17, 1914.—*Mr. Paquet*.....*Not printed.*

**251.** Return to an Order of the House of the 4th March, 1914, for a copy of all correspondence, letters, telegrams and documents in connection with the removal of ice in Yarmouth, N.S., harbour, by C.G.S. *Stanley* in February, 1914. Presented April 21, 1914.—*Mr. Law* .....*Not printed.*

## CONTENTS OF VOLUME 28—*Continued.*

**252.** Report of the Royal Commission on Penitentiaries, together with the evidence taken and exhibits filed before the said commission. Presented by Hon. Mr. Doherty, April 22, 1914. (Report only) .....*Printed for distribution and sessional papers.*

**253.** Return to an Order of the House of the 9th March, 1914, for a return showing:—

1. How many professors, lecturers and inspectors the Department of Agriculture has in the Province of Prince Edward Island?

2. Their names, the salaries they receive, and the travelling expenses of each.

3. The duties of these professors, lecturers and inspectors?

4. How many meetings were held or demonstrations given by each of these professors, lecturers and inspectors during the months of March, April, May, June, July, August, September and October last year?

5. Where each meeting was held or demonstration given, and how each was advertised?

6. How many boxes, baskets and barrels of fruit were inspected last season, and the kinds of fruit so inspected?

7. When and where the inspection took place and how many boxes, baskets and barrels were found to be improperly or falsely marked?

8. Whether the Department received a resolution or petition from the Fruit Growers' Association of Prince Edward Island.

9. If so, what prayer or request the said resolution or petition contained, and what the Department has decided to do in regard to the matter?

10. How many cheese and butter factories were operated in each of the counties of Prince Edward Island in the year 1910 and how many in the year 1913. Presented April 22, 1914.—*Mr. Hughes (P.E.I.)*.....*Not printed.*

**254.** Return to an Order of the House of the 26th February, for a return showing:—The freight rates charged during the years 1912 and 1913 on wheat from Fort William or Port Arthur to ports on the Georgian Bay and Canadian ports on Lake Huron and Lake Erie, by the Canadian Pacific Steamship Line, the Northern Navigation Company, the Merchant's Mutual Line, Inland Lines, and the Canadian Lake Line. Presented April 24, 1914.—*Mr. Aikins* .....*Not printed.*

**255.** Return to an Order of the House of the 23rd March, 1914, for a copy of all letters, papers, telegrams, recommendations and documents of every kind in connection with the purchase of a Rifle Range near Souris, Prince Edward Island. Presented April 27, 1914. —*Mr. Hughes (P.E.I.)*.....*Not printed.*

**256.** Return to an Order of the House of the 2nd February, 1914, for a copy of all papers, advertisements, tenders, bids, contracts, telegrams, correspondence, accounts, receipts, vouchers, &c., in reference to the supply of meats, hay, oats, and all other supplies for the 1913 summer and autumn drill at Aldershot Camp, Nova Scotia. Presented April 27, 1914.—*Mr. Maclean (Halifax)*.....*Not printed.*

**256*a*.** Return to an Order of the House of the 30th March, 1914, for a copy of all advertisements, tenders, contracts, documents, papers, &c., relative to the supply of ice for the Aldershot Military Camp, N.S., for the season of 1914. Presented May 29, 1914.—*Mr. Maclean (Halifax)* .....*Not printed.*

**257.** Return to an Order of the House of the 1st April, 1914, for a Return showing:—

1. The total amount paid for pensions by the Department of Militia and Defence for the year ending March 31, 1913.

2. The number of militia officers at present on the pay-roll of the permanent corps.

3. How many private soldiers are at present on the pay-roll of the permanent force?

4. How many private soldiers joined the force during 1913?

5. How many deserted during 1913?

6. The gross amount expended by the Department of Militia and Defence for the salaries of officers and officials of every kind in the employ of the Department at Ottawa or elsewhere during the fiscal year 1912-1913.

7. The gross amount paid out for services to the private soldiers of the permanent corps during the said year 1912-1913. Presented April 27, 1914.—*Mr. Sinclair.*

*Not printed.*

**258.** Return to an Order of the House of the 4th February, 1914, for a copy of all letters, telegrams, &c., exchanged between the Department of Militia and Messrs. A. Macdonald, E. Montpetit and others, in connection with the organization of the 33rd Hussars, at Vaudreuil and Soulanges. Presented April 27, 1914.—*Mr. Boyer*.....*Not printed.*

**259.** Return to an Order of the House of the 9th March, 1914, for a copy of all letters, telegrams, reports, and other correspondence, in possession of the Department of Militia and Defence, relating to the purchase of land in Farnham, Quebec, for a military camp ground. Presented April 27, 1914.—*Mr. Kay*..... *Not printed.*

**260.** Return to an Order of the House of the 2nd February, 1914, for a copy of all correspondence between the Department of Agriculture or the Department of Customs and C. S. Campbell, Esq., K.C., relating to the importation of pure-bred animals into Canada. Presented April 27, 1914.—*Mr. Kay* .....*Not printed.*

## CONTENTS OF VOLUME 28—*Continued.*

**261.** Return to an Order of the House of the 2nd March, 1914, for a copy of all correspondence, letters, telegrams, and other documents relative to the immigration of Asiatics, including Hindus, Japanese and Chinese, which have a bearing either directly or indirectly upon the Order in Council passed by the Government during December, 1913, restricting immigration into the Province of British Columbia. Presented April 27, 1914.—*Mr. Oliver* ..... *Not printed.*

**262.** Return to an Address to His Royal Highness the Governor General of the 30th March, 1914, for a copy in duplicate of all leases, agreements, correspondence, Orders in Council and other documents relating to the water-power or privileges connected with the Stevens Dam, so called, that had been constructed across the River Trent at the village of Campbellford, together with a copy in duplicate of a license in connection with said dam, granted to the Honourable James Cockburn and others under date December 9, 1869, and of all correspondence with, and opinions of, the Minister of Justice at the time of the granting of said license and since that date; also a duplicate copy of all papers, correspondence, Orders in Council and other documents relating to or connected with the cancellation, termination and revocation of such license on the 12th of August, 1911, and of all correspondence, propositions, agreements or other documents had and made by, to or with the Trent Valley Woollen Manufacturing Company, Limited, and of all correspondence with the Department of Justice and opinions thereof relating thereto; also a duplicate copy of all correspondence, reports, Orders in Council and other documents referred to or mentioned in an Order in Council of date August 25, 1913, set forth on page W 398, in the third volume of the Auditor General's Report, 1913, and of all correspondence with the Auditor General and by and between the Auditor General and any department of Government relating thereto or connected therewith. Presented April 27, 1914.—*Mr. Emmerson* ..... *Not printed.*

**263.** Return to an Order of the House of the 2nd February, 1914, for a copy of all papers, deeds, contracts, &c., in connection with the purchase by the Board of Harbour Commissioners of Quebec, of a stone quarry at St. Nicholas, Que. Presented April 28, 1914. —*Mr. Lemieux* ..... *Not printed.*

**264.** Return to an Order of the House of the 6th April, 1914, for a copy of all petitions, correspondence, telegrams and other papers and documents received by the Department of Marine and Fisheries since January 1, 1914, relating to the transportation of fish from the Maritime Provinces to the United States, and of all replies thereto. Presented April 29, 1914.—*Mr. Sinclair* ..... *Not printed.*

**265.** Return to an Order of the House of the 2nd February, 1914, for a copy of all papers, deeds and contracts in connection with the purchase by the Department of Agriculture of a quarantine station at Lévis, Que., on or about July 29, 1913. Presented April 29, 1914.—*Mr. Lemieux* ..... *Not printed.*

**266.** Copy of Order in Council No. P. C. 976, dated 18th April, 1914, "Revised Regulations governing the entry of Naval Cadets." Presented by Hon. Mr. Hazen, April 30, 1914. *Not printed.*

**266*a*.** Copy of Order in Council dated 18th May, 1914, concerning the organization of a Naval Volunteer Force. Presented by Hon. Mr. Hazen, May 23, 1914..... *Not printed.*

**267.** Return to an Order of the House of the 4th March, 1914, for a copy of all papers, correspondence and telegrams concerning the deportation of Bhwagan Singh, a Sikh priest, in defiance of a writ of Habeas Corpus. Presented April 30, 1914.—*Mr. Lemieux.* *Not printed.*

**268.** Statement of receipts and expenditures of the National Battlefields Commission to 31st March, 1914, as required by 7-8 Edward VII, chapter 57, section 12. Presented by Hon. Mr. White, May 4, 1914..... *Not printed.*

**269.** Copy of the trust deed, dated 30th June, 1903, between the Canadian Northern Railway Company and the British Empire Trust Company and the National Trust Company, Limited. Presented by Hon. Mr. Borden, May 4, 1914..... *Not printed.*

**269*a*.** Copy of the trust deed, dated 6th May, 1910, between the Canadian Northern Railway Company and the British Empire Trust Company and the National Trust Company, Limited. Presented by Hon. Mr. Borden, May 4, 1914..... *Not printed.*

**269*b*.** Copy of the trust deed, dated 19th November, 1913, between the Canadian Northern Railway Company, Mackenzie, Mann & Co., Limited, and the British Empire Trust Company, and the National Trust Company, Limited. Presented by Hon. Mr. Borden, May 4, 1914..... *Printed for distribution and sessional papers.*

**269*c*.** Statement showing the floating liabilities of the railway companies embraced in the general title of the Canadian Northern Railway System. Presented by Hon. Mr. Borden, May 4, 1914 ..... *Not printed.*

**269*d*.** Statement of securities pledged as collateral to temporary loans of the Canadian Northern System. Presented by Hon. Mr. Borden, May 4, 1914..... *Not printed.*

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**269***e*. Statement showing the engineer's estimate of the cost of completing the Canadian Northern Railway System. Presented by Hon. Mr. Borden, May 4, 1914.....*Not printed.*

**269***f*. Statement of capital stock authorized and issued, of the companies set out in the first schedule. Presented by Hon. Mr. Borden, May 6, 1914.....*Not printed.*

**269***g*. Approximate estimate of betterments for six years of the lines of the Canadian Northern Railway System. Presented by Hon. Mr. Borden, May 6, 1914.....*Not printed.*

**269***h*. Statements as on 31st December, 1913, bearing on the financing of the Canadian Northern Railway System. Presented by Hon. Mr. Borden, May 6, 1914.....*Not printed.*

**269***i*. Papers and statements in respect to the Canadian Northern Railway System:—
1. Correspondence, including official application for aid.
2. Detailed statements showing particulars of capitalization, earnings, cost to complete, &c. Presented by Hon. Mr. Borden, May 6, 1914.
*Printed for distribution and sessional papers.*

**269***j*. Copy of trust deed dated October 4, 1911.—The Canadian Northern Railway to the Guardian Trust Company, Limited, and the British Empire Trust Company, Limited, and His Majesty the King and the Canadian Northern Railway Company. Presented by Hon. Mr. Borden, May 7, 1914.....*Printed for distribution and sessional papers.*

**269***k*. List of companies whose total issued stock is owned by the Canadian Northern Railway Company; also, list of companies whose total issued stock is to be transferred to The Canadian Northern Railway Company; and also, list of companies in which the controlling interest is to be transferred to The Canadian Northern Railway Company. Presented by Hon. Mr. Borden, May 7, 1914.....*Not printed.*

**269***l*. Further statements bearing on the financing of the Canadian Northern Railway System. Presented by Hon. Mr. Borden, May 7, 1914.
*Printed for distribution and sessional papers.*

**269***m*. Correspondence and telegrams received from the premiers of the Provinces of Nova Scotia, British Columbia, Alberta, and the Acting Premier of Saskatchewan, in regard to the granting of aid to the Canadian Northern Railway System. Presented by Hon. Mr. Borden, May 7, 1914..... *Printed for distribution and sessioanl papers.*

**269***n*. Copy of trust deed dated 28th December, 1903.—The Lake Superior Terminals Company, Limited, and the National Trust Company, Limited, and the Canadian Northern Railway Company. Presented by Hon. Mr. Borden, May 11, 1914.....*Not printed.*

**270.** Return to an Order of the House of the 20th April, 1914, for a copy of all letters, telegrams and other documents relating to the refusal of the Railway Department, or any official of the Intercolonial Railway to permit employees of the railway at Moncton to attend the militia camp in the last year. Presented May 6, 1914.—*Mr. Macdonald.*
*Not printed.*

**271.** Return to an Order of the House of the 23rd March, 1914, for a copy of all correspondence received by the Government since October 1, 1911, to date, from John M. Cormick, of Sydney Mines, N.S., in reference to the following matters in the Riding of North Cape Breton and Victoria:—Railway extension into the Riding of North Cape Breton and Victoria; the opening of the harbour at Dingwall, Aspey Bay, C.B.; the breakwater at Meat Cove in the said Riding; the boat harbour at Bay St. Lawrence; the breakwater at White Point; the breakwater at Neil's Harbour; the breakwater at McLeod's, Ingonish; in respect to Ingonish Harbour; the breakwater at Breton Cove; the breakwater at Little Bras d'Or; the breakwater at Cape Dauphin; the breakwater at Point Aconi; the proposed wharf at North Sydney the proposed extension of the breakwater at North Sydney; the bringing of the Intercolonial Railway to the ballast ground at North Sydney; the wharf at Sydney Mines; the wharf at Leitches Creek; the repairs to the wharf at Groves Point; the rebuilding of the wharf at Boisdale; the breakwater at Jamesville; the wharf at Castle Bay, and the proposed wharf at Shenacadie. Presented May 7, 1914.—*Mr. McKenzie*.....*Not printed.*

**272.** Copy of all letters, documents and correspondence relating to action by the Government in regard to the relief of the shareholders and depositors of the Farmers Bank, and of the Order in Council appointing Sir William Meredith as Commissioner, and all correspondence in relation thereto. And also, Statement of Affairs, &c., relating to the Farmers Bank of Canada. Presented by Hon. Mr. White, May 8, 1914....*Not printed.*

**273.** Return to an Order of the House of the 6th April, 1914, for a copy of all letters, telegrams and correspondence received by the Postmaster General in connection with complaints made that the postmaster at Yarmouth North, N.S., had been or is selling stamps outside his jurisdiction. Presented May 8, 1914.—*Mr. Law*.....*Not printed.*

**274.** Return to an Order of the House of the 9th February, 1914, for a return showing the number of criminals released on parole from the various penitentiaries of the Dominion for the year ending March 31, 1913; the offence for which each prisoner so released was convicted, and showing at the same time whether such offence was a first, second, or subsequent offence. Presented May 8, 1914.—*Mr. Sinclair*.....*Not printed.*

## CONTENTS OF VOLUME 28—*Continued.*

**275.** Return to an Order of the House of the 9th March, 1914, for a return showing:—
1. How many acres of public land have been given to railway companies in the Dominion of Canada by the Federal Government from 1878, to the present time?
2. How many acres were granted in each year during the above period of time Presented May 11, 1914.—*Mr. Tobin* .....*Not printed.*

**276.** Return to an Order of the House of the 2nd February, 1914, for a return showing the receipts and expenses of the post office at St. Philippe, East, and of the post office at St. Philippe, West, in the parish of St. Philippe de Néri, since the first of June, 1912, to date. Presented May 11, 1914.—*Mr. Lapointe (Kamouraska)*.....*Not printed.*

**277.** Report of the Dominion Wreck Commissioner in the matter of a formal investigation into the causes which led to the British steamer *Saturnia* touching the ground in the Lower Traverse, River St. Lawrence, on Tuesday, April 28, 1914. Presented by Hon. Mr. Hazen, May 12, 1914.....*Printed for sessional papers only*

**278.** Report of the Dominion Wreck Commissioner in the matter of a formal investiagtion into the causes which led to the stranding of the British steamship *Montfort*, on Beauport Bank, River St. Lawrence, on Tuesday, April 28, 1914. Presented by Hon. Mr. Hazen, May 12, 1914.....*Printed for sessional papers only.*

**279.** Return to an Address to His Royal Highness the Governor General of the 2nd February, 1914, for a copy of the Order in Council appointing Arthur Plaunte, Esq., a Commissioner to receive claims against the Atlantic and Lake Superior Railway, the Baie des Chaleurs Railway and the Quebec Oriental Railway, and of the report of said Commissioner and of the statement of claims accepted and those rejected by him, with the reasons therefor, as well as of all correspondence, memorials, petitions and documents, generally bearing on said subject. Presented May 12, 1914.—*Mr. Marcil (Bonaventure)* .....*Not printed.*

**279*a*.** Supplementary Return to an Address to His Royal Highness the Governor General of the 2nd February, 1914, for a copy of the Order in Council appointing Arthur Plaunte, Esq., a Commissioner to receive claims against the Atlantic and Lake Superior Railway, the Baie des Chaleurs Railway and the Quebec Oriental Railway and of the report of said Commissioner and of the statement of claims accepted and those rejected by him, with the reasons therefor, as well as of all correspondence, memorials, petitions and documents, generally bearing on said subject. Presented May 22, 1914.—*Mr. Marcil (Bonaventure)* .....*Not printed.*

**280** Return to an Order of the House of the 6th Apri,l 1914, for a copy of all correspondence, accounts, indemnities, travelling expenses, &c., from Fraserville to Quebec, and of all other documents relating to the amount of money received each year by His Honour Mr. Justice Ernest Cimon, from 1890 to 1913, as Judge of the Superior Court sitting at Quebec, during the time he was connected with the District of Kamouraska. Presented May 16, 1914.—*Mr. Gauvreau* .....*Not printed.*

**281.** Report of the delegates appointed by the Government of Canada to attend the "International Purity Congress," held in the city of Minneapolis, Minn., November 7-12, 1913. Presented by Hon. Mr. Borden, May 16, 1914.....*Not printed.*

**282.** Agreement between the Government and steamship companies for mail carriage between Canadian and European ports.—(*Senate*).....*Not printed.*

**283.** Return to an Order of the House of the 15th April, 1914, for a return showing:—
1. How many passengers have been carried over the Intercolonial Railway from St. John to Halifax, and from Halifax to St. John, respectively, under the agreement made on the 30th September, 1913, between the Canadian Government Railways by F. P. Gutelius, General Manager and the Canadian Pacific Railway Comapny, by G. M. Bosworth, General Traffic Manager, from the 15th November, 1913, when the said agreement went into effect, to the 31st March last?
2. How many tons of freight of each of the classes mentioned in said agreement have been carried each way over the Intercolonial Railway between St. John and Halifax, under said agreement during said period?
3. What have been the total earnings by the Intercolonial Railway under said agreement up to the 31st March last, for passengers and freight carried, respectively?
4. What amount has been paid to or earned by the Canadian Pacific Railway for car hire under said agreement?
5. What number of empty cars of the Canadian Pacific Railway Company have been hauled by the Intercolonial Railway free under said agreement, and what has been the cost of such haulage?
6. What would have been the total amount paid by the Canadian Pacific Railway Company to the Intercolonial Railway, under the tariff prevailing at the time of the making of said agreement, for the passengers and the freight so carried, respectively?
7. Whether the said agreement has been submitted, as promised by the Government, to the Board of Railway Commissioners by the Minister of Railways for the purpose of having the Board determine as to whether or not said agreement is discriminatory against the port of St. John. If not, why was it not so submitted?

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8. If it is the intention of the Minister of Railways to renew the said agreement, or to put in force a similar agreement, during the next Winter Port season.

9. What agreement the Government intends to make as to the Atlantic termini of the fast Atlantic mail steamers for the winter of 1914-1915. Presented May 22, 1914.—*Mr. Pugsley* ..... *Not printed.*

**284.** Return to an Order of the Senate dated 15th May, 1914:—

1. How many judges have been retired since 1880?
2. What are their names?
3. What salary did they receive in each case?
4. How many years did they serve in each case?
5. What was the reason given for their retirement?
6. How much did they receive for retirement allowance each year in each case?

Ordered, that the same do lie on the table, and it is as follows.—(*Senate*).

*Not printed.*

**285.** Return to an Address to His Royal Highness the Governor General of the 9th March, 1914, for a copy of all petitions, letters, telegrams and documents by any and all parties to and by the Department of Railways and Canals, or any other Department of the Government, with reference to the Southampton Railway Company, also of all reports of engineers and recommendations regarding a subsidy to the said railway, and of all Orders in Council granting same, and of all other documents and memoranda in the possession of the Department of Railways and Canals or other Departments of the Government regarding the said railway. Presented May 27, 1914.—*Mr. Carvell.*

*Not printed.*

**286.** Return to an Order of the House of the 2nd February, 1914, for a copy of all correspondence, papers, documents, contracts, &c., between the Government of Canada and any company, firm or individuals from May 1, 1913, to December 1, 1913, referring to the establishment of a subsidized steamship service between Canada and the British West Indies. Presented May 27, 1914.—*Mr. Maclean (Halifax)* ..... *Not printed.*

**287.** Return to an Order of the House of the 4th May, 1914, for a copy of all papers, letters, telegrams, accounts and receipts concerning advances made to the Montagnais Band of Indians through the agency of Seven Islands, Quebec. Presented May 29, 1914.—*Mr. Lemieux* ..... *Not printed.*

**288.** Return to an Order of the House of the 11th May, 1914, for a copy of all papers, letters, telegrams, accounts and receipts, concerning advances or payments made by the Government to Newton Wesley Rowell, K.C., for legal services in connection with the Oka Indian litigation. Presented May 29, 1914.—*Mr. Sharpe (Ontario)* ..... *Not printed.*

**288*a*.** Return to an Order of the House of the 6th May, 1914, for a return showing:—

1. Whether the Government paid Newton Wesley Rowell, K.C., any sums of money for legal services during the past fifteen years?
2. If so, the amounts and when?
3. Whether the Government paid the firm of which Mr. Rowell is the senior partner any sums of money for legal services?
4. If so, the amounts and in what years? Presented May 29, 1914.—*Mr. Sharpe (Ontario)* ..... *Not printed.*

**289.** Return to an Order of the House of the 20th April, 1914, for a return showing:—

1. The date of the incorporation of the Canadian National Bureau of Breeding, Limited, with the names, addresses and occupations of the charter members of said Company.
2. The amount of capital of the Company and the number of shares into which it is divided.
3. The number of shares taken from the commencement of the Company up to the date of the return.
4. The amount of calls made on each share, the total amount of calls received, the total amount of calls unpaid, and the total number of shares forfeited.
5. The names, addresses and occupations of the persons who have ceased to be members within the twelve months next preceding, and the number of shares held by each of them.
6. The amount of money paid to said Company by the Government in each year since incorporation. Presented May 29, 1914.—*Mr. Sutherland* ..... *Not printed.*

**290.** Return to an Order of the House of the 9th February, 1914, for a copy of all reports made by the inspectors of agents for placing farm labourers and domestic servants in Canada during the calendar years 1912 and 1913. Presented May 29, 1914.—*Mr. Sutherland.*

*Not printed.*

**291.** Return to an Order of the House of the 2nd March, 1914, for a return showing all the buildings, houses, offices and immoveables, occupied by the Federal Government in Montreal, for the use of the various Departments and services of each branch of the administration, together with the following information in each case; for what Department and for what service; where situated, street and number thereof; whether Government property or under lease; in the latter case, the length of lease, the rent per annum and also the other charges that may be imposed upon the Government. Presented June 4, 1914.—*Mr. Wilson (Laval)* ..... *Not printed.*

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**292.** Return to an Order of the House of the 4th May, 1914, for a copy of all correspondence exchanged by and with the Department of Public Works or the Post Office Department, relating to an application or applications for a post office building at the town of Melville, Province of Saskatchewan. Presented June 4, 1914.—*Mr. MacNutt.*
*Not printed.*

**293.** Memorandum, correspondence, estimates of cost, &c., in connection with the construction of the Grand Trunk Pacific Railway—Mountain Section. Presented by Hon. Mr. Borden, June 4, 1914.....*Not printed.*

**294.** Return to an Order of the House of the 4th February, 1914, for a return showing the names and addresses of the people with whom pure bred animals have been placed by the Department of Agriculture, the breed in each case, and the conditions on which these animals were placed. Presented June 5, 1914.—*Mr. Kay*.....*Not printed.*

**295.** Return to an Order of the House of the 30th March, 1914, for a copy of all correspondence, telegrams, instructions, accounts, vouchers and other papers and documents relating to the purchase of live stock in the Maritime Provinces by one Howard Corning of Yarmouth, N.S., during the period of his employment; also a copy of the appointment of the said Howard Corning and of all correspondence, complaints and other documents relating to the dismissal of the said Howard Corning, if he has been dismissed or retired from the service, together with a copy of all recommendations, correspondence and other papers relating to the appointment of the said Howard Corning's successor. Presented June 5, 1914.—*Mr. Sinclair* .....*Not printed.*

**296.** Return to an Order of the House of the 19th March, 1914, for a return showing:—
1. How many pure bred stallions and bulls have been purchased by the Department of Agriculture for the use of settlers in the Provinces of Manitoba, Saskatchewan and Alberta since the first of January, 1912, to date.?
2. Where these animals were purchased, and from whom; and also the price paid for them respectively. Presented June 5, 1914.—*Mr. Douglas*.....*Not printed.*

**297.** Return to an Order of the House of the 9th February, 1914, for a copy of all correspondence, including letters, telegrams and accounts, regarding the purchase and disposal during year 1913, of all horses, cattle, sheep and swine for the Department of Agriculture, Province of Quebec for Experimental Farms, or for the improvement of stock, together with a return showing the commission and fees paid, and to whom paid, for and on account of said purchases. Presented June 8, 1914.—*Mr. Robb*....*Not printed.*

**298.** Return to an Address to His Royal Highness the Governor General of the 9th February, 1914, for a copy of all arrangements made between the Government and the various Provinces under the Agricultural Instruction Act. Presented June 10, 1914.—*Sir Wilfrid Laurier* .....*Not printed.*

**299.** Partial Return to an Address to His Royal Highness the Governor General of the 4th March, 1914, for a copy of all correspondence, telegrams, petitions, Orders in Council, and other papers and documents, relating to subventions or assistance given, or to be given, by the Department of Marine and Fisheries or the Department of Agriculture to firms or joint stock companies, or persons operating cold storage plants for the preservation of fish products in Nova Scotia during the years 1908, 1909, 1910, 1911, 1912 and 1913, excluding such correspondence, &c., as relates to companies known as Fishermen's Bait Association. Presented June 10, 1914.—*Mr. Sinclair*.....*Not printed.*

**300.** Copy of Order in Council No. P.C. 1386, of the 29th May, 1914, concerning the regulations governing the Radiotelegraph administration. Presented by Hon. Mr. Hazen, June 11, 1914 .....*Not printed.*

**300*a*.** Copy of regulations governing Radiotelegraphy promulgated under section 11, Radiotelegraph Act, 1913. Presented by Hon. Mr. Hazen, June 11, 1914.....*Not printed.*

**301.** Return to an Order of the House of the 27th April, 1914, for a copy of all letters, tenders, telegrams, plans, specifications and other documents in regard to the construction of the new ice breaker by the Canadian Vickers Company of Montreal. Presented June 11, 1914.—*Mr. Macdonald* .....*Not printed.*

**302.** Return to an Address to His Royal Highness the Governor General of the 16th March, 1914, for a copy of all petitions, letters, affidavits, telegrams and documents to and by the Department of Justice, or any oaher Department of Government, on behalf of or in reference to Wm. J. Kelley, a prisoner in the United States federal prison at Atlanta, Ga., and of all the letters, telegrams and other memoranda between the Department of Justice, or any other Department of the Government, and the British Ambassador at Washington, or the Government of the United States, regarding the imprisonment and proposed liberation of the said Wm. J. Kelley. Presented June 12, 1914.—*Mr. Carvell.*
*Not printed.*

# CANADA

## REPORT

OF THE

# MINISTER OF PUBLIC WORKS

ON THE

## WORKS UNDER HIS CONTROL

FOR THE

## FISCAL YEAR ENDED MARCH 31

## 1913

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*Submitted in accordance with the Provisions of Chapter 39, Section 34, of the Revised Statutes of Canada.*

*PRINTED BY ORDER OF PARLIAMENT*

OTTAWA
PRINTED BY C. H. PARMELEE, PRINTER TO THE KING'S MOST EXCELLENT MAJESTY
1913

[No. 19—1914.]

*To His Royal Highness, Field Marshal, Prince Arthur William Patrick Albert, Duke of Connaught and Strathearn, K.G., K.T., K.P., etc., etc., Governor General and Commander-in-Chief of the Dominion of Canada.*

I have the honour to lay before Your Royal Highness the Report of the Department of Public Works of Canada, for the fiscal year ended March 31, 1913.

I have the honour to be, sir,
Your Royal Highness's most obedient servant,

ROBERT ROGERS,
*Minister of Public Works.*

Ottawa, November 24, 1913.

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| Soda Creek, B.C., post office | | 18 | | | | | |
| Sonora Channel, N.S. | | 21 | | | | | |
| Sorel, P.Q., public building | | 10-42 | 19 | | | | |
| " wharf | | 30 | | 190 | | | |
| Souris, P.E.I., harbour | | 23 | | 86 | | | |
| " " public building | | 8-40 | 8 | | | | |
| Souris, Man., post office | | 15-45 | | | | | |
| Southampton, Ont. | | 32 | | 245 | | | |

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| **S** | | | | | | | |
| South Cove, N.S. | | 21 | | 62 | | | |
| South Gut, N.S. | | 21 | | | | | |
| South Lake, N.S. | | 21 | | 62 | | | |
| South Lancaster, Ont. | | 32 | | 245–406 | | | |
| South Nation river, Ont. | | 32 | | 246 | | | |
| Southport, P.E.I. | | 23 | | 86 | | | |
| South Porcupine, Ont. | | 32 | | 246 | | | |
| South river, Ont. | | 32 | | 246 | | | |
| South Thompson River, B.C. | | | | 291 | | | |
| Spencer's Island, N.S. | | 21 | | 64 | | | |
| Spindlers Cove, N.S. | | 20 | | | | | |
| Sprague, Ont. | | 32 | | 246 | | | |
| Spray river bridge | | | | 441 | | | |
| Springhill, N.S., public building | | 7–40 | 6 | | | | |
| Squateck, P.Q. | | 30 | | 190 | | | |
| Steelton, Ont., post office | | 14 | | | | | |
| Sterling Brook, N.S. | | 21 | | 63 | | | |
| Stewart, B.C. | | 34 | | 291 | | | |
| Stettler, Alta., immigration building | | 47 | | | | | |
| Stoney Island, N.S. | | 22 | | 64 | | | |
| Stratford, Ont., public building | | 14–45 | 43 | | | | |
| Stratford Centre, P.Q. | | 30 | | 190 | | | |
| Strathcona, Alta., public building | | 17–47 | 52 | | | | |
| Strathroy, Ont., " " | | 14–45 | | | | | |
| Stuart River, B.C. | | | | 291 | | | |
| Sturgeon Falls, Ont. | | 33 | | 247 | | | |
| Sturgeon River, Ont. | | 33 | | 247 | | | |
| Sudbury, Ont., post office | | 14 | | | | | |
| Sugar Point, Man. | | 33 | | 259 | | | |
| Summerside, P.E.I., public building | | 8–40 | 8 | | | | |
| " " harbour | | 23 | | 88–406 | | | |
| Summertown, Ont. | | 33 | | 247 | | | |
| Sunbridge, Ont. | | 33 | | 248 | | | |
| Sunshine Bay, B.C. | | 35 | | 291 | | | |
| Surveys and inspections | | 37 | | | | | |
| Sussex, N. B., public building | | 8–41 | 13 | | | | |
| Swan River, Man., immigration building | | 45 | | | | | |
| Swift Current, Sask., immigration building | | 17–47 | | | | | |
| Sydenham River, Ont. | | 33 | | 248–408 | | | |
| Sydney, N.S., public building | | 7–40 | 7 | | | | |
| " wharf | | 22 | | 407 | | | |
| Sydney Mines, N.S. | | | | 65 | | | |
| " public building | | 7 | 6 | | | | |
| **T** | | | | | | | |
| Tadousac, P.Q. | | 30 | | 191 | | | |
| Tancook Island, N.S. | | 22 | | | | | |
| Tatamagouche, N.S. | | 22 | | 65 | | | |
| Telephones | | | | | 18 | | |
| Telegraph and Nigger Island, Ont. | | 33 | | 249–408 | | | |
| Telegraph lines, generally | 15 | 36 | | | 1 | | |
| " reports | | | | | 1 | | |
| " revenue | | | | | 17 | | |
| " staff | | | | | 5–19 | | |
| Tenecape, N.S. | | 22 | | 66 | | | |
| Terrebonne, P.Q., public building | | 10–43 | | | | | |
| Thessalon, Ont. | | 33 | | 249 | | | |
| Thetford Mines, P.Q., public building | | 10–43 | | | | | |
| The Wharfs, N.S. | | 22 | | 66 | | | |
| Thompson River, B.C. | | 34–35 | | 292 | | | |
| Thornbury, Ont. | | 33 | | 250 | | | |
| Three Lakes, P.Q. | | 30 | | 154 | | | |
| Three Fathom Harbour, N.S. | | 22 | | 66 | | | |
| Three Island Cove, N.S. | | 22 | | | | | |
| Three Rivers, P.Q., public buildings | | 10–43 | | | | | |
| " " | | 30 | | 191 | | | |

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| **T** | | | | | | | |
| Tiffin, Ont. | | 33 | | 408 | | | |
| Tignish, P.E.I. | | 23 | | 88 | | | |
| " public building | | 8-40 | 9 | | | | |
| Tilbury, Ont., | | 14 | 43 | | | | |
| Tilley Rips, N.B | | 25 | | 126 | | | |
| Tilsonburg, Ont., post office | | 14-45 | 43 | | | | |
| Timiskaming telegraphs | | 37 | | | 13 | | |
| " dam | | 37 | | | | | |
| Tisdale, Sask., immigration building | | 17-47 | | | | | |
| Tittle Passage, N.S | | 22 | | 67 | | | |
| Tiverton, N.S | | 22 | | 67 | | | |
| Tobermoray, Ont | | 33 | | 250 | | | |
| Tobique River, N.B | | | | 127 | | | |
| Toney River, N.S | | 22 | | 67 | | | |
| Toronto, Ont., public buildings | 6 | 14-45 | 43 | | | | |
| " harbour | 12 | 33 | | 250-408 | | | |
| Total expenditure of department | 3 | 39 | | | | | |
| Tracadie, N.B., lazaretto | | 8-41 | 13 | | | | |
| Tracadie, N.B | | 25 | | 127 | | | |
| Tracadie, P.E.I | | 23 | | 89 | | | |
| Trent and Newcastle slides | | | | 433 | | | |
| Trenton, Ont | | 33 | | 252 | | | |
| " " public building | | 14-45 | 45 | | | | |
| Trois Pistoles, P.Q | | 30 | | 192 | | | |
| " " " post office | | 43 | | | | | |
| Trout Cove, N.S | | 22 | | 68 | | | |
| Truro, N.S., public building | | 7-40 | 7 | | | | |
| Trynors Cove, N.B | | 25 | | | | | |
| Tucker Bay, B.C | | 35 | | 292 | | | |
| Tusket Wedge, N.S | | 22 | | | | | |
| Two Bea on Bar, B.C | | | | 268-292 | | | |
| Two Creeks, Ont | | 33 | | | | | |
| Two Mile Narrows, Ont | | 33 | | 252 | | | |
| Tynemouth Creek, N.B | | 26 | | 127 | | | |
| *Tyrian* S.S. cable ship | | 37 | | | 15-110 | | |
| **U** | | | | | | | |
| Union Bay, B.C | | 35 | | 292 | | | |
| " " " post office | | 18 | | | | | |
| Unity immigration building | | 47 | | | | | |
| Upper Columbia River, B.C | | | | 292 | | | |
| Upper Derby, N.B | | | | 127 | | | |
| Upper Fraser River, B.C | | 35 | | 293 | | | |
| " Lincoln, N.B | | | | 127 | | | |
| Upper Maugerville, N.B | | 25 | | 128 | | | |
| " Ottawa storage dams | | 37 | | | | | |
| Upper Salmon River, N.B | | 26 | | 128 | | | |
| Uxbridge, Ont., post office | | 14-45 | 45 | | | | |
| **V** | | | | | | | |
| Valleyfield, P.Q | | 30 | | 192 | | | |
| " public building | | 10-43 | 19 | | | | |
| Vancouver, B.C., public building | | 18-48 | 55 | | | | |
| " harbour | 12 | 35 | | 293 | | | |
| " telegraphs | | 37 | | | 96 | | |
| Vanda immigration building | | 47 | | | | | |
| Varennes, P.Q | | | | 193-409 | | | |
| Varennes,—Bout de l'Isle, P.Q | | 30 | | 193 | | | |
| Vaudreuil, P.Q | | 30 | | 193 | | | |
| Vegreville, Alta., immigration building | | 17-47 | | | | | |
| Verchères, P.Q | | 30 | | 194-409 | | | |
| Verdun, " | | 30 | | 194 | | | |
| " " post office | | 11 | | | | | |
| Vermillion, Alta., immigration building | | 47 | | | | | |

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| **V** | | | | | | | |
| Vernon, B.C., public building | | 18–48 | 56 | | | | |
| " River, P.E.I | | 23 | | 89–409 | | | |
| Victoria Beach, N.S. | | | | 56 | | | |
| Victoria Beach Bay, Man | | 33 | | 260 | | | |
| Victoria, B.C., public building | | 18–48 | 57 | | | | |
| " Harbour, B.C | 12 | 35 | | 295 | | | |
| " " Ont | | 33 | | 252–409 | | | |
| " Pier, N.S | | 22 | | 68 | | | |
| " " P.E.I | | 23 | | | | | |
| Victoriaville, P.Q., public building | | 11–43 | | | | | |
| Viking, Alta., immigration building | | 17–47 | | | | | |
| Ville Marie, P.Q | | 30 | | 195 | | | |
| Virden, Man., immigration building | | 15–45 | | | | | |
| " " post office | | 15 | | | | | |
| **W** | | | | | | | |
| Wadena, Sask., buildings | | 17–45 | | | | | |
| Wainwright, Sask., immigration building | | 47 | | | | | |
| Walkerton, Ont., public building | | 14–45 | 45 | | | | |
| Walkerville, Ont., public building | | 14 | | | | | |
| Wallace, N.S | | 22 | | 68 | | | |
| Wallaceburg, Ont., post office | | 14 | 45 | | | | |
| " " dredging | | 33 | | | | | |
| Waltham bridge, Ont | | | | 439 | | | |
| Walton, N.S | | 22 | | | | | |
| Waneta, B.C., custom house | | 18 | | | | | |
| Waterloo, Ont., public building | | 14 | | | | | |
| Watford, Ont., post office | | 14 | | | | | |
| Watt Settlement, N.S. | | 22 | | 69 | | | |
| Weedon, P.Q., post office | | 11 | | | | | |
| Welchpool, N.B | | 26 | | | | | |
| Welland, Ont., public building | | 14–45 | 46 | | | | |
| Wendover, Ont | | 33 | | 253 | | | |
| West Advocate, N.S | | 22 | | 70 | | | |
| West Arichat, N.S | | 22 | | 70 | | | |
| West Chezzetcook, N.S | | 22 | | 70 | | | |
| Westfield, N.B | | 26 | | | | | |
| Western Head, N.S | | 22 | | 71 | | | |
| West Shore, N.S | | 22 | | 72 | | | |
| West Point, P.E.I | | 23 | | 89 | | | |
| Westport, N.S | | 22 | | 72 | | | |
| West Pubnico, N.S | | | | 72 | | | |
| West River, P.E.I | | 23 | | | | | |
| Westville, N.S., public building | | 7–40 | 7 | | | | |
| Westaskawin, Alta., public building | | 17–47 | 53 | | | | |
| Weyburn, Sask., post office | | 17 | 51 | | | | |
| Weymouth, N.S | | 22 | | 73–410 | | | |
| Wharfs, piers, etc | | | | 444 | | | |
| Wheatley, Ont | | 33 | | 253 | | | |
| Whitby, Ont, harbour | | 33 | | 253 | | | |
| " public building | | 14–45 | | | | | |
| White Head, N.B | | 26 | | 128–409 | | | |
| " " P.Q | | 30 | | | | | |
| White Point, N.S | | 22 | | 73 | | | |
| White Rock, B.C., cattle quarantine | | 18 | | | | | |
| Whitewater, N.S | | 22 | | 74 | | | |
| Whitney, Pier, N.S | | | | 74 | | | |
| Wiarton, Ont., post office | | 14 | | | | | |
| Wilkie, Sask., immigration building | | 17–47 | | | | | |
| Williams Head, B.C., quarantine station | | 17–48 | 58 | 297 | | | |
| " " Ont., wharf | | 35 | | | | | |
| Willow Creek, cattle quarantine | | 17 | | | | | |
| " Point, Man | | 33 | | 260 | | | |
| " " B.C | | 35 | | | | | |
| Wilmer, B.C | | 34 | | 298 | | | |

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| **W** | | | | | | | |
| Windermere, Ont. | | 33 | | 254 | | | |
| Windsor, Ont., public building | | 14-45 | 46 | | | | |
| " " dock | | 33 | | 254 | | | |
| " N.S., public building | | 7-40 | 7 | | | | |
| " " harbour | | 22 | | 74 | | | |
| Wingham, Ont., public building | | 14-45 | 46 | | | | |
| Winnipeg, Man., " | | 16-45 | 48 | | | | |
| " " dredging | | 33 | | 261 | | | |
| " River, Man | | | | 261-440 | | | |
| " Man., bridges | | | | 439-440 | | | |
| Winnipeg Beach, Man | | 33 | | 261 | | | |
| Woburn, P.Q. | | 30 | | 195 | | | |
| Wolfville, N.S., public building | | 7-40 | 7 | | | | |
| " wharf | | 22 | | 75 | | | |
| Wooden River, B.C | | 35 | | 298 | | | |
| Woodlands, N.B | | 26 | | 129 | | | |
| " P.Q | | 30 | | 195-409 | | | |
| Woods Harbour, N.S. | | 22 | | | | | |
| Wood Islands, P.E.I. | | 23 | | 89 | | | |
| Woodstock, N.B., public building | | 8-41 | 13 | | | | |
| " Ont., " | | 14-45 | 46 | | | | |
| Woodwards Slough, B.C | | | | 298 | | | |
| **Y** | | | | | | | |
| Yamachiche, P.Q. | | 30 | | | | | |
| Yamaska, P.Q. | | 30 | | 196 | | | |
| " River, P.Q., lock and dam | | 30 | | 425 | | | |
| Yarmouth, N.S. | | 22 | | 410 | | | |
| " public building | | 7-40 | 7 | | | | |
| Yarmouth Bar, N.S | | | | 75-410 | | | |
| Yonker, Sask., immigration building | | 47 | | | | | |
| Yorkton, Sask., public buildings | | 17-47 | | | | | |
| York bridge | | 36 | | 436 | | | |
| Young's Landing, N.S. | | 22 | | 76 | | | |
| Yukon, public buildings | | 18 | 58 | | | | |
| Yukon river, B.C. | | 35 | | | | | |
| " telegraphs | | | | | 14-101 | | |

# PART I

# REPORT

OF THE

# DEPUTY MINISTER OF PUBLIC WORKS

## FOR THE YEAR ENDING MARCH 31

## 1913

# REPORT

OF THE

# DEPUTY MINISTER OF PUBLIC WORKS

FOR THE

## FISCAL YEAR ENDING MARCH 31, 1913

OTTAWA, October 31, 1913.

Honourable ROBERT ROGERS,
Minister of Public Works of Canada,
Ottawa, Ont.

SIR,—I have the honour to submit the report of the operations of the Department of Public Works, for the fiscal year ended March 31 last.

### EXPENDITURE.

The total expenditure incurred by the department during the year 1912-13, amounts to the sum of $18,844,223.90, and is classified as follows:—

| | |
|---|---|
| Harbour and river works | $3,921,000 85 |
| Dredging, plant, etc | 5,980,029 93 |
| Slides and booms | 124,219 63 |
| Roads and bridges | 152,581 04 |
| Public buildings | 7,420,885 32 |
| Telegraphs | 741,145 27 |
| Miscellaneous | 504,361 86 |
| | $18,844,223 90 |

It will be noted that the principal increase has taken place in connection with Public Buildings, where the expenditure has grown from $4,141,326.94 last year, to $7,420,885.32 during the fiscal year 1912-13. This is due to a greater number of buildings having been placed under construction, as well as to the fact that among these there are many of the larger and more important class, involving heavier outlay.

There is also a substantial increase, approaching the million mark, in both the Harbour and River Works and the Dredging Services, due to increasing demands from Navigation and Commercial interests for improved shipping facilities.

## REVENUE.

The total revenue for the year amounted to the sum of $488,194.23, sub-divided under the following heads:—

| | |
|---|---|
| Slides and booms | $110,108 34 |
| Graving docks | 47,927 51 |
| Rents | 88,851 81 |
| Telegraphs | 215,526 11 |
| Casual revenue | 25,780 46 |
| | $488,194 23 |

The aggregate revenue shows a material increase, in the neighbourhood of $70,000, over that of the preceding fiscal year; the chief increase occurring in Rent collections and Slide and Boom dues.

In the case of Rents, the greater portion of the rents received is due to the rentals from properties along Wellington and adjoining streets in the City of Ottawa within the area expropriated as a site for the New Departmental Buildings.

In the St. Maurice District, Slides and Booms, there is an increase of over $10,000 in the dues collected, as compared with last year; and the number of pulp and sawlogs passed through increased from 5,600,583 to 7,302,180, during that period. It is doubtful, however, whether as large a quantity of logs will be consumed next year owing to the provincial regulations prohibiting the export of pulp wood.

## PUBLIC BUILDINGS.

The expenditure in this branch of departmental operations, amounted to $7,420,885.32, and its work is best exemplified by the number of buildings which were commenced, completed and occupied during the period under review.

The following buildings, given by province, were completed:—

*Prince Edward Island.*—Summerside armoury and Tignish public building.

*New Brunswick.*—Campbellton, Fairville, Grand Falls and Hillsboro' public buildings.

*Quebec.*—Arthabaska public building, Fraserville armoury, Marieville, Rigaud and Rock Island public buildings.

*Ontario.*—Dresden, Essex, Harriston, Kemptville, Listowel, Mitchell, Mount Forest public buildings, Niagara Falls armoury and Tillsonburg public building.

*Manitoba.*—Portage la Prairie public building.

*Saskatchewan.*—Gravelbourg, Humboldt, Lloydminster, Melfort and Weyburn public buildings.

*Alberta.*—Strathcona armoury, Strathcona and Wetaskiwin public buildings.

*British Columbia.*—Chilliwack, Cranbrook, Comox and Vernon public buildings.

Those still under construction at the close of the year were:—

*Nova Scotia.*—Wolfville public building.

*New Brunswick.*—St. John armoury and St. John new post office.

*Quebec.*—Levis armoury, Megantic public building, Montreal detention hospital, Montreal postal station 'C,' Montreal new examining warehouse, Quebec post office addition, Quebec immigration building, Roberval, Shawinigan Falls, Ste. Thérèse and St. Lambert public buildings.

*Ontario.*—Athens, Brantford, Chesley, Dundas, Midland, Port Perry, Seaforth, Tilbury and Uxbridge public buildings.

*Manitoba.*—Minnedosa, Morden and Moosejaw (new) public buildings.

*Alberta.*—Calgary immigration building, Calgary examining warehouse and Lethbridge public building.

*British Columbia.*—Grand Forks public building and Vancouver new examining warehouse.

Of the large buildings now under construction by the department, particular mention may be made of the St. John, N.B., post office, under contract with Rhodes, Curry & Company, for the sum of $381,350. It is situated on Prince William street, extending back to Canterbury street; the frontage being 161 feet and the width 107 feet. The building has a sandstone front, with side and rear walls of brick, and is of fireproof construction.

A large addition is being made to the post office building at Quebec, situated on the corner of Buade and Dufort streets. It will extend along Buade street to Mountain Hill, a distance of 57 feet, by a depth at right angles along the cliff from Buade street towards Durham Terrace of 133 feet. The walls will be of limestone backed with brick, and the style a repetition of the present building. The interior walls, partitions and floors will be of steel, concrete and terra cotta. The contract is with Messrs. Villeneuve, Bossé, Banks and Boivin, for the sum of $385,000.

At Montreal, a new customs examining warehouse is being erected on a site having a frontage of 202 feet on Norman and McGill streets, and 130 feet on Youville street. The building has stone facing on a steel frame, and is of fireproof construction throughout. Its style is English Renaissance freely treated. The contract was awarded to the P. Lyall & Sons Construction Company, Limited, for the sum of $999,000.

On the 6th March last, a contract was entered into for the construction of a public building at Brantford, Ont., on the corner of Dalhousie and Queen streets, having a frontage of 125 feet by a depth of 108 feet. Messrs. P. H. Secord & Sons are the contractors, and the building will cost $244,308. The street elevations are

faced throughout with cut stone and the remaining walls are of brick with stone dressings. In addition to the usual accommodation for the Post Office, Customs and Inland Revenue Departments, there is also in this building a suite of Indian offices.

At Calgary, a new examining warehouse is being erected under contract with the J. McDiarmid Company, of Winnipeg, Man., for the sum of $455,000. The ground floor is of cut stone with brick backing, and the first, second and third floors are of brick with stone trimmings.

A new public building is being erected at Lethbridge, on the corner of Dufferin and Glyn streets, at a cost of $221,300, under contract with Messrs. Navin Bros., of Moosejaw, Sask. The style of architecture is a plain variety of English Renaissance. The street elevations of the building are of cut stone, and the rear walls of brick.

In addition to the above, there is in contemplation, and sites have already been secured, for large new post offices at Toronto, Ont. and Calgary, Alta.; and in the former city, as soon as final plans of the new Union Station building and railway trackage connected therewith, are decided upon, there is to be erected on Front street, near Yonge, extending westward to Bay street, a large Customs examining warehouse and postal station building in one façade.

There is also a new million-dollar Customs building to be erected on Sussex street, Ottawa, which has recently been placed under contract. It is intended to provide accommodation therein for examining warehouse purposes as well as for the local custom-house and Customs Department. The preparation of the foundation for this building has presented very considerable engineering difficulties. They are being put in by the Foundation Company, of Montreal, P.Q., and will be completed very shortly.

## NEW DEPARTMENTAL BUILDINGS.

Reference was made in the last report to the congested condition of the Government offices at Ottawa, and the large space which it has become necessary to rent in privately-owned buildings, to accommodate the ever-increasing branches of the Government service. A large area was expropriated west of the Parliament and Departmental buildings, between Wellington street and the Ottawa river, to serve as a site for the new Departmental buildings; and steps are now being taken to secure suitable designs therefor. To obtain the best results, it was decided to hold a competition open to architects who are British subjects and practising in the British Empire; and to that end, a Board of Assessors was chosen by the Government, composed of Messrs. Thomas E. Collcutt, Past President of the Royal Institute of British Architects; J. H. G. Russell, President of the Royal Architectural Institute of Canada; and J. O. Marchand, A.D.G.L., and a member of the Royal Architectural Institute of Canada, to draw up the conditions and instructions to competing architects and to select from the preliminary sketches, six designs, the authors of which will be invited to submit final designs. The author of the design chosen by the assessors in the final competition will be employed by the Government to superintend the erection

of the buildings which it is at present proposed to place under contract. The time for the reception of the preliminary designs was originally fixed for January 2, 1914, but was subsequently extended to April 2, 1914.

The new buildings are to be fireproof throughout and will be designed to provide a superficial office area of 500,000 feet. The style of architecture to be adopted is left to the discretion of the competitors. Should no complications arise in the working out of the proposal, it is expected that the new buildings will be placed under contract in the spring of 1915, and the expiration of a period of thirty months from that time should witness their completion.

### NEW MONUMENTS.

During the past year, there has been erected a statue of the Honourable George Brown, at the turn of the driveway around the new western wing of the Parliament buildings. The work was executed by Mr. George W. Hill, A.R.C.A., sculptor, for the sum of $10,000. Mr. Hill has also been commissioned to execute a statue of Honourable D'Arcy McGee, which is now in process of execution and should be finished very shortly. The cost will be $10,000.

The monument to Honourable Messrs. Baldwin and Lafontaine was committed to Mr. Walter S. Allward, A.R.C.A., sculptor, of Toronto, Ont., for the sum of $20,000, as has also the monument to His late Majesty King Edward the Seventh. In the competition for the latter, which is to cost the sum of $25,000, forty-three sculptors took part, of whom ten were Canadians; the other thirty-three were British subjects from various parts of the world. This, it is considered, evidences a very strong School of Canadian Sculptors, and it may be added that the work submitted by them compared very favourably with the best received from abroad. It is doubtful, however, whether a general competition produces the best results, as the more prominent sculptors do not enter competitions, having as much work as they can handle from direct commissions.

An excellent site has been chosen for the King Edward monument on the terrace, at the southeast corner of the Eastern block overlooking Connaught Place. These statues and monuments, when erected, will add very materially to the beauty and interest of the Parliament grounds, on which already stand statues of Sir George Etienne Cartier, executed by Mr. Louis Philippe Hébert at a cost of $10,000, and completed in 1884; of Sir John A. Macdonald, also executed by Mr. Hébert at a cost of $15,000, and completed in 1896; of Queen Victoria, executed by Mr. Hébert at a cost of $21,000, and completed in 1901; and of Honourable William Mackenzie, executed by Messrs. Hébert and Hamilton McCarthy, at a cost of $15,000, and completed in 1901.

### NATIONAL GALLERY ACT.

During the last session, a very important and progressive step was taken by the passing of an Act to incorporate the National Gallery of Canada. This institution was established as far back as the year 1880, under the patronage of Her Royal High-

ness the Princess Louise and of His Grace the Duke of Argyle, then Marquis of Lorne and Governor General of Canada, assisted by a number of patriotic Canadian citizens.

The collection of pictures, statuary and other works of art has now reached considerable proportions, and consists of the diploma works of members of the Royal Canadian Academy of Arts: gifts of Canadian artists and others interested in art: and purchases made by the Canadian Government for the Gallery.

In 1907, the appointment of an Advisory Arts Council, to be composed of three members, was authorized by Order in Council, to advise and assist the Minister of Public Works with respect to the purchase of objects of art. The first council was composed of the late Sir George Drummond, of Montreal; Sir Edmund Walker, of Toronto; and Honourable Arthur Boyer, Senator, of Montreal. On the death of Sir George Drummond, Dr. Francis H. Shepherd was appointed in his place.

In view of the importance which had been attained by the National Gallery, and to encourage and assist the growth thereof, it was deemed advisable that the Gallery should be managed by a Board of Trustees. The council above named was therefore constituted a Board of Trustees, holding office at pleasure, and the right is reserved to the Governor in Council to increase its numbers to five. The objects and powers of the Board, as set out in Section 3 of the Act, are: 'The development, maintenance, care and management of the National Gallery and generally the encouragement and cultivation of correct artistic taste and Canadian public interest in the fine arts, the promotion of the interests generally of art in Canada; the exhibition of works of art under the auspices of the Board or of art societies or otherwise; the custody and preservation of the works of art contributed, and to be contributed, by members of the Royal Canadian Academy of Arts to the National Gallery under the statute in that behalf; the acquiring by purchase, lease, devise or otherwise, of pictures, statuary, works of art and other similar property.'

During the year, a large number of pictures, etchings, drawings, casts and other objects of art were purchased by the Board, a full list of which is contained in the Director's report. Of these, the most notable purchases were:—

'The Magdalen,' by Andrea del Sarto, 1487-1531. One of the greatest painters of the Florentine Renaissance.

Thomas Taylor, Esq., 'A Portrait of a Man,' by Sir Thomas Lawrence, 1769-1830.

'Head of a Woman,' a print on a panel taken from a tomb in Egypt, by Professor Flinders Petrie. The painting is of the First Century, A.D., during the time of the Roman occupation of Egypt, and is one of about a dozen in existence.

The Metcalfe Collection of 102 engravings of the most prominent Frenchmen of the reign of Louis XIV, by Robert Manteuil, the greatest of the French engravers of the Seventeenth and Eighteenth Centuries. These engravings are

intensely interesting, not alone from their artistic excellence but also on account of their historical character, as many of them are portraits of statesmen and administrators prominent during the early French Regime in Canada.

The innovation this year of keeping the Gallery open on Saturday afternoons and holidays, has been greatly appreciated, as is evidenced by the largely increased number of visitors who have taken advantage of the opportunity thus afforded.

There was expended from the National Gallery appropriation for the year 1912-13, for pictures, drawings, etchings, sculpture and casts, the sum of $44,235.82; and the register shows that during the last nine months of the year, between 23,000 and 24,000 people visited the Gallery. This is the best indication that could be had of the growing popularity of the exhibition.

## CONNAUGHT PLACE.

During the year, there was brought to a successful completion by Contractors O'Toole and McGillivray, the construction of the Plaza, between the old Sappers and Dufferin bridges which, in honour of His Royal Highness the Governor General, has been named 'Connaught Place.' This space, comprising some 91,000 superficial feet in area, flanked by the imposing new hotel and station of the Grand Trunk Railway Company and by the city post office, forms one of the most striking features of the Capital City of the Dominion; and gives a most favourable first impression to the incoming visitor. It is the intention to erect, in the centre, an impressive monument symbolical, in all probability, of the confederation of the provinces, while along either side, the piers of the balustrade afford excellent locations for the placing of statues in commemoration of men who have helped to make Canadian history.

## HARBOUR AND RIVER WORKS.

The expenditure for this service amounted to the sum of $3,921,000.85.

The following works were completed during the year, full particulars regarding which, with the outlay made in each case, will be found in the Chief Engineer's report in this volume:—

*Nova Scotia.*—Wharves at Bear River, Gillis Point, Herring Cove, Melford, Port Greville, Sheet Harbour Passage, South Cove, Watt Settlement and West Chezzetcook.

Breakwaters at Blanche, Breens Pond, Brooklyn (new), Cape Rouge, Duncans Cove, Little Anse, Little Harbour, St. Joseph, The Wharfs and West Advocate.

*Prince Edward Island.*—Wharves at Belle River, Bonshaw and Gordon Point.

*New Brunswick.*—Wharves at Baker Lake, Black River, Castalia, Mill Cove and Sackville.

Breakwaters at Dalhousie, Point Sapin and Richibucto Beach.

Protection work at Goose Creek.

*Quebec.*—Wharves at Belœil, Natashquan, Norway Bay, Peribonka, St. Joseph de Letellier, St. Luc and Tadoussac.

Training pier at Cap Chatte.

*Ontario.*—Wharves at Grand Bend, Gravenhurst, Kempenfeldt Bay, Kenora, Porcupine, Red Bay, St. Williams, Severn Bridge, South Porcupine, Sunbridge, Wheatley and Windermere.

*Manitoba.*—Wharves at Pelican Lake and Victoria Beach Bay.

*Alberta.*—Wharf at Edmonton.

*British Columbia.*—Wharves at Alberni, Alica Arm, Boswell, Celistia, Comaplix, Deer Park, Golden, Goose Bay, Gordon Road, Greens Landing, Holberg, Kamloops, Ladner, Massett (2), McIvors, Metchosin, Mill Bay, Mirror Lake, Murphys Landing, Porcher Island, Prince Rupert, Refuge Bay, Revelstoke, St. James Island, Savary Island, Shushartie, Shutty Bench, Sicamous, Sunshine Bay, Tucket Bay and Wilmer.

The following works were placed under contract during the year and are still under construction:—

*Nova Scotia.*—Wharves at East Ship Harbour, Kront Point, Mushaboom, Musquodoboit, Sterling Brook and Western Shore.

Breakwaters at Devils Island, French River, Seal Cove and Trout Cove.

*Prince Edward Island.*—Wharf at Franklin Point.

*New Brunswick.*—Wharf, breakwater and dredging at St. John, Courtenay Bay; Pier No. 1, West St. John.

*Quebec.*—Wharves at Gaspé Basin, Levis and Ste. Félicité.

*Ontario.*—Wharves at Beaumaris, Cache Bay, La Passe, Orillia and Parry Sound.

Breakwater at North Bay.

Dock at Windsor.

*British Columbia.*—Victoria breakwater.

Reference was made in some detail in last year's report to the progress being made with the large works of development in the various national harbours of the Dominion; and it is gratifying to be able to report that these large undertakings are proceeding apace.

Following the improvement of harbour conditions by the Government, the recent growth of private industrial development in the cities of Port Arthur and Fort William, is most marked. Over 13,000,000 bushels of elevator accommodation has been added during the past year, made up as follows:—

A 3,650,000 bushels addition to the Canadian Pacific Railway Elevator 'D.'
2,250,000 bushels to the Grand Trunk Pacific Railway Elevator.

And two new elevators at Fort William—(Horne) 1,750,000 and (Dwyers) 80,000.

At Port Arthur, a 2,500,000 bushel addition to the Port Arthur elevator.

And the new Government Grain Commissioners' elevator having a capacity of 3,250,000 bushels.

The combined capacity of the water-front elevators and the interior elevators of these two ports now aggregates the excessively large figure of 40,485,000 bushels.

Commercial and transportation companies have continued to demonstrate their faith in the future of these two cities by further large expenditures.

The Grand Trunk Pacific Railway have constructed trackage and a freight shed on the Kaministiquia river, 600 feet in length, opposite the McKellar river, for the handling of local freight.

The Canadian Pacific Railway have doubled the capacity of their freight shed on Dock No. 5 and have now a total freight shed length of some 900 feet.

The Steel Company of Canada have constructed a steel plant on property west of the Canadian Iron Corporation, costing $75,000, for the construction of steel work, and will employ 250 men; it is also proposed to construct a dock 545 feet in length.

The National Tube Works have constructed a plant adjoining the Canada Car Company, which will soon be in operation, employing 250 men.

The Grand Trunk Pacific Railway Company have constructed a second large freight shed 900 feet in length by 60 feet in width on the west side of the Grand Trunk Pacific basin.

The Imperial Oil Company have constructed a new dock 400 feet in length, with large storehouse on the Kaministiquia river, replacing the old small dock formerly existing.

The Horne Elevator Company have constructed a concrete dock in front of their elevator, 250 feet in length.

The Canadian Pacific Railway Company have constructed a concrete dock 1,300 feet in length on the east side of Slip No. 1, and on this dock have constructed freight shed No. 8, 1,030 feet in length. On the west side of the same slip, the company have constructed a modern rail dock, 1,200 feet in length.

The Dwyer Elevator Company have constructed a dock in front of their elevator on lot No. 8, concession 'D,' 208 feet long.

At St. John, the works on the east and west sides of the harbour are making only fair progress but every endeavour will be made to expedite their completion. In order to provide adequate dockage for the ocean liners which make the port of St. John their winter terminals, a second pier has been placed under contract with M. Connolly &

Company on the west side, in conformity with the scheme of harbour development decided upon, which consists of a series of docks and slips extending southward towards Partridge island. It may be observed here, however, that for the protection of these docks it will be eventually necessary to extend the breakwater at Negro Point to Partridge island.

Considerable progress has been made with the construction of the breakwater in Courtenay bay, which is of the rubble mound type, but so far little headway has been accomplished with the dredging and wharf construction. Arrangements are now being made to have both these portions of the contract pushed forward vigorously.

The large breakwater, under contract with Sir John Jackson Canada, Limited, at Ogden Point, in the outer harbour of Victoria, B.C., is well under way. The contractor has opened up a quarry within a reasonable distance of the work and has it well equipped with plant for the efficient and economical handling of the rock required for the work. This breakwater is also of the rubble mound type. The scheme of development for Victoria's outer harbour provides for a series of piers inside the breakwater; and in view of the speedy utilization of the Panama canal for inter-oceanic commerce, tenders are at present being invited for the building of two of these piers. They will be entirely of concrete construction.

A contract has also been awarded for the new public dock in Burrard inlet, at Vancouver, B.C. The structure will be 800 feet long, 300 feet wide and will consist of timber and concrete cribs with concrete superstructure. The site of the work is well located and easy of approach. A vessel, after passing through the First Narrows, may take a straight course to its moorings alongside the dock without having to make a turn, such as is now necessary to reach the Canadian Pacific Railway dock. It is expected that substantial progress will be made with the work during the coming year.

The latest large contract for harbour development which has been let, is that at Toronto, Ont., where the Canadian Stewart Company will undertake extensive work involving an expenditure of five and three-quarter million dollars. The intention is to construct a sea wall 17,295 feet in length, having pile work substructure and concrete superstructure from the eastern entrance east to the Woodbine; a breakwater 18,600 feet in length, of crib work substructure and concrete superstructure from the western entrance of the harbour as far west as the Humber river, and a ship channel and turning basin, bordered by a revetment wall, 16,705 feet in length of pile substructure with concrete superstructure.

The last-mentioned work will provide a district, where industrial sites may be secured, combining the advantages of both rail and water transportation at their very doors.

## DRY DOCKS.

One of the most important public works which has been under consideration for a considerable length of time, first in connection with the Subsidies Act and later as a direct undertaking of the Government, is the new graving dock at Lauzon, Lévis county, P.Q., which has recently been placed under contract. The urgent necessity for a dock of first-class dimensions, where the largest vessels crossing the Atlantic can be docked and repaired, has for some time been evident. The number of vessels trading in the St. Lawrence river, which cannot be docked in the present Lévis graving dock, has been increasing year by year. Among the more important, are the: *Virginian, Victorian, Tunisian, Hesperian, Grampian, Scotian* and *Corsican,* of the Allan Line; *Empress of Britain, Empress of Ireland, Montezuma* and *Mount Temple,* of the Canadian Pacific Railway Line; *Royal Edward* and *Royal George,* of the Canadian Northern Railway Line; and *Laurentic, Megantic, Canada* and *Teutonic,* of the Dominion Line.

The contract has been awarded for this dry dock to Messrs. M. P. and J. T. Davis, for the sum of $2,721,116.

The dock is to be built to the east of the present Government dry dock, and will be 1,150 feet long, 120 feet wide, with a depth on the sill at O.H.W.S.T., of 40 feet. Its operation will be by electrical power generated by a plant to be installed on the dock property. It will be the largest dock on the North American continent, excelling in dimensions any of the docks at present on the United States sea-board.

## DREDGING.

The total expenditure for dredging exceeds by almost a million dollars the outlay which was made for that purpose during the last fiscal year. It amounted to the sum of $5,980,029.93, of which $458,798.53 were expended on the construction of departmental plant, and $218,951.63 on repairs.

The most important dredging operations were carried on at the following places, where an expenditure of $20,000, or more, was made:—

*Nova Scotia.*—Digby, East river (Pictou), Larry's river, Liverpool, Lunenburg and Yarmouth.

*New Brunswick.*—Bathurst, Dalhousie, Fredericton, Grassy island, Miramichi bay, Richibucto, St. George, St. John harbour and Shediac.

*Prince Edward Island.*—Souris and Summerside.

*Quebec.*—Nicolet, Quebec, Saguenay river and Rivière St. Francois.

*Ontario.*—Byng inlet, Fort William, Goderich, Midland (Tiffin), Picnic islands, Port Arthur, Port Hope, Rainy river, Sault Ste. Marie, Telegraph and Nigger islands, Toronto and Victoria harbour (Port McNicol).

*Manitoba.*—Red river.

*British Columbia.*—Columbia and Kootenay rivers, Fraser river, Vancouver and Victoria.

With respect to the departmental plant, I would like to make special mention of the work of the dredges *Mastodon, Fruhling* and *Quebec,* which has been highly satisfactory, and great credit is due the masters and engineers for the very gratifying results which have attended their efficient and capable operation of these machines. As it happens, they are each of a different type: the *Mastodon* is an elevator or bucket ladder dredge, and has been engaged on the widening of the First Narrows at the entrance to Burrard inlet, Vancouver; the *Fruhling* is a suction dredge and has been operating near the mouth of the Fraser river, B.C.: the *Quebec* is a dipper dredge, and has been working in the harbour at Hamilton, Ont., where extensive improvements are being carried out. The output of all three machines has been very high, and the cost correspondingly low.

Among the recently-acquired units of the departmental plant, are two Lobnitz rock breakers. These machines are manufactured by the Lobnitz Company, of Renfrew, Scotland. One is operated in Victoria, B.C., harbour, and the other in Bastouche, N.B., harbour. They have been demonstrated to be very efficient and economical contrivances for the removal of sub-marine rock. A full description of their method of operation will be found at page 296, part IV of this volume.

Another innovation in connection with departmental dredges, is the installation of apparatus for burning oil fuel in place of coal. This, so far, is confined to units of the British Columbia fleet; the apparatus having been installed on the dredges *Mastodon, Fruhling, King Edward* and *Ajax;* tugs *Point Grey, Point Ellice* and *Petrel,* and rockbreaker *No. 1.* The oil fuel, it is estimated, will result in cutting in two the outlay for fuel, and will make an annual saving in operation of $25,000. This, however, is not the only advantage, for, apart from the material saving in cost, there are also considerations of saving of labour by reducing the number of firemen; saving in subsistence; less repairs, and a reduction of the loss of time which formerly occurred in connection with coaling, etc. The system also gives more uniform temperature of fire, absence of smoke and dust, and perfect control over fires, as the fire may be extinguished in a minute's time.

With regard to contract dredging, it is gratifying to be able to state that the decrease in the unit cost of dredging by this method is observable more particularly in the provinces of Ontario and Quebec, where prices have been obtained of nineteen cents per cubic yard, place measurement, for earth, and $2.50 per cubic yard, place measurement, for solid rock, requiring drilling and blasting.

Up to the present year, no dredging by contract had been done in British Columbia; all the work in that province having been performed by departmentally-owned and operated dredges. It was not possible, however, for the Government's fleet to keep abreast of the demands received; and when the improvement of False creek was decided upon, a public call for tenders was made and a contract awarded to the Pacific Dredging Company. Other contracts, although of lesser importance, have subsequently been let in other parts of the province.

Of recent years, a decided improvement has been made in the method of dealing with applications for dredging. A standard form of report has been adopted for use by District Engineers in transmitting information concerning dredging requirements, whereby all the features of any particular work are placed before the department in a brief and concise manner, enabling proper consideration of the necessity and urgency of the situation. The employment of this form does away with much of the delay that previously existed in obtaining information that was lacking. There has also been put into force, a new distribution cost system of expenditures on dredging done by the departmental plant, which enables the department to carefully scrutinize expenditures incurred on each dredge.

## TELEGRAPHS.

A very large addition to the Government telegraph lines was made during the year 1912-13, over 1,150 miles of new lines having been constructed. The telegraph lines owned by the Government now aggregate a length of 9,792 miles. The most important extensions were made in British Columbia, the Prairie Provinces and the Yukon. In the former, the following lines were constructed: Nakusp-Edgewood, 37 miles; Victoria-Jordan River, 40 miles.

In the Northwest there were completed: St. Paul-Durlingville line, 48 miles; Dunvegan-Lake Saskatoon, 76 miles; and Battleford-Green Lake, 165 miles.

In the Yukon, the department constructed the 150-Mile House-Bella Coola line of 329 miles; Fraser River-Stuart Lake line, 40 miles; Lillooet-Pioneer Mines line, 71 miles.

In the provinces of Nova Scotia and Quebec, extensions aggregating 97½ miles and 41 miles, respectively, were built.

Next to postal facilities, telegraph communication is the greatest boon which the Government can bestow on an outlying, newly-settled district; and all will agree that expenditure for these purposes is amply justified on behalf of those who are, year by year, pushing farther afield the line of development and settlement.

Keeping pace with the innovations introduced by the Commercial Telegraph companies, the Government Telegraph lines, beginning the 1st of April, 1912, introduced a night lettergram, or deferred message service, which admits of the acceptance during regular office hours of messages for delivery the following day. The charge for such messages of fifty words or less is the regular day rate for ten words, with an additional charge of one-fifth of this rate for each additional ten words or less. The connecting lines have agreed to the interchange of such messages at the same proportionate rates to and from all points in the Dominion of Canada and the United States. No reports are as yet to hand, showing the extent to which the night lettergram service on the Government lines has been made use of, but its introduction does not appear to have in any way adversely affected the revenue.

I beg, in conclusion, to thank the officers and clerks of the department for the valuable assistance given me throughout the year.

I have the honour to be, sir,
Your obedient servant,

J. B. HUNTER,
*Deputy Minister.*

# PART II

# REPORT OF THE CHIEF ACCOUNTANT

FOR THE

FISCAL YEAR ENDED MARCH 31

# 1913

DEPARTMENT OF PUBLIC WORKS, CANADA,
CHIEF ACCOUNTANT'S OFFICE,
OTTAWA, October 16, 1913.

R. C. DESROCHERS, Esq.,
Secretary,
Department of Public Works,
Ottawa.

SIR,—I beg to submit the report upon the expenditure made by this department during the fiscal year ended March 31, 1913.

As in previous years, the report takes the form of three tabular statements, as follows:—

STATEMENT A, showing the expenditures upon each work under the several heads of (1) construction and improvements, (2) repairs, (3) staff and maintenance. In treating of public buildings, as it would be cumbersome to give the cost of maintenance in detail in this statement, that expenditure is condensed into one item, for each province, the fuller detail being reserved for Statement B.

STATEMENT B, showing separately, for each building, the cost of rent, salaries, heating, lighting and water.

STATEMENT C, showing amounts advanced by Government for the construction of certain works of a semi-public character, under statutory authority, and after inspection by officers of this department. There were no transactions of this nature during 1912-13 and the statement is only inserted to preserve the continuity of the report from year to year.

The total expenditure during the fiscal year was $18,844,223.90 an increase of $4,915,556.73 over the expenditure of the preceding year.

The volume of work passed through the Accountant's Branch during 1912-13 may be briefly indicated as follows:—

| | Number of cheques issued. | Amount. |
|---|---|---|
| | | $ cts. |
| Direct payment by departmental cheque— | | |
| Issued by head office, Ottawa | 72,701 | 5,977,407 42 |
| Issued by agencies | 20,223 | 1,605,740 31 |
| Total departmental cheques | 92,924 | 7,583,147 73 |
| Payment by Receiver General's cheque, after applications issued by this office, upon the Auditor General (contract work, etc.) | 1,719 | 11,261,076 17 |
| Total expenditure | | 18,844,223 90 |

I have the honour to be, sir,

Your obedient servant,

A. G. KINGSTON,
*Chief Accountant and Comptroller.*

# STATEMENT OF EXPENDITURE

DURING

FISCAL YEAR ENDED MARCH 31, 1913

STATEMENT A, showing the Amounts Expended by the Department of Public Works of Canada during the fiscal year ending March 31, 1913.

| Name of Work. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total. |
|---|---|---|---|---|
| PUBLIC BUILDINGS. | $ cts. | $ cts. | $ cts. | $ cts. |
| *Nova Scotia.* | | | | |
| Amherst post office, etc | 1,089 30 | 305 90 | | 1,395 20 |
| Annapolis post office, etc | | 112 15 | | 112 15 |
| Antigonish post office, etc | | 37 30 | | 37 30 |
| Arichat post office, etc | | 100 08 | | 100 08 |
| Baddeck post office, etc | 806 08 | 5 70 | | 811 78 |
| Bridgewater | | 13 02 | | 13 02 |
| Bridgetown entomology station | 215 91 | | | 215 91 |
| Canso post office, etc | | 410 07 | | 410 07 |
| Dartmouth post office, etc | | 17 63 | | 17 63 |
| Digby post office, etc | | 326 51 | | 326 51 |
| Glace Bay post office, etc | | 24 50 | | 24 50 |
| Guysboro post office, etc | | 169 58 | | 169 58 |
| Halifax cattle quarantine station | | 183 98 | | 183 98 |
| " custom-house | 2,209 23 | 460 50 | | 2,669 73 |
| " custom-house, power for machinery | | | 337 80 | 337 80 |
| " Immigration detention building | 737 05 | | | 737 05 |
| " Immigration building | | 667 32 | | 667 32 |
| " Lawlor's Island quarantine station | 5,862 70 | | | 5,862 70 |
| " post office | 7,965 33 | 308 00 | 1,000 00 | 9,273 33 |
| " post office, power for machinery | | | 164 34 | 164 34 |
| Inverness post office, etc | 1,255 00 | 332 94 | | 1,587 94 |
| Kentville post office, etc | 2,234 45 | 26 95 | | 2,261 40 |
| " experimental farm | 288 00 | | | 288 00 |
| Liverpool post office, etc | 233 27 | 73 88 | | 307 15 |
| Lunenburg post office, etc | 1,760 83 | 345 85 | | 2,106 68 |
| Middleton post office, etc | 2,500 00 | | | 2,500 00 |
| " custom-house | | 323 86 | | 323 86 |
| Nappan experimental farm | 983 94 | | | 983 94 |
| New Glasgow post office, etc | | 496 78 | | 496 78 |
| North Sydney | | 3,243 12 | | 3,243 12 |
| " cattle quarantine station | 545 75 | | | 545 75 |
| " district engineer's office (Y.M.C.A. building) | | 36 30 | | 36 30 |
| North Sydney, immigration building | | 175 50 | | 175 50 |
| Parrsboro post office, etc | 14,998 00 | | | 14,998 00 |
| Pictou custom-house | | 649 89 | | 649 89 |
| " post office | | 414 69 | | 414 69 |
| Point Tupper Junction post office | 67 17 | | | 67 17 |
| Shelburne public building | 580 00 | 281 70 | | 861 70 |
| Springhill public building | | 635 68 | | 635 68 |
| Sydney public building | | 181 05 | | 181 05 |
| Sydney Mines post office, etc | | 22 72 | | 22 72 |
| Truro post office, etc | 580 10 | 602 68 | | 1,182 78 |
| Westville post office, etc | | 158 30 | | 158 30 |
| Windsor post office, etc | 1,475 00 | 172 25 | | 1,647 25 |
| " cattle quarantine station | 5,756 00 | | | 5,756 00 |
| Wolfville post office, etc | 13,278 40 | | | 13,278 40 |
| " meteorological station | | 6 50 | | 6 50 |
| Yarmouth post office, etc | | 275 26 | | 275 26 |
| Heating, lighting, water, etc., for all buildings in Nova Scotia (see details on page 40) | | | 63,740 49 | 63,740 49 |
| Totals, Nova Scotia | 65,421 51 | 11,598 14 | 65,242 63 | 142,262 28 |

PART II—STATEMENT A—EXPENDITURE—*Continued.*

| Name of Work. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total. |
|---|---|---|---|---|
| PUBLIC BUILDINGS. | $ cts. | $ cts. | $ cts. | $ cts. |
| *Prince Edward Island.* | | | | |
| Charlottetown Dominion building | 347 54 | 601 70 | | 949 24 |
| " Marine and Fisheries building | | 1,505 68 | | 1,505 68 |
| " experimental farm | | 25 00 | | 25 00 |
| " immigration building | | 137 80 | | 137 80 |
| Georgetown post office, etc | | 26 46 | | 26 46 |
| Montague post office, etc | | 179 15 | | 179 15 |
| Souris post office, etc | | 569 75 | | 569 75 |
| Summerside armoury | 3,234 17 | | | 3,234 17 |
| " post office, etc | 5 11 | 190 03 | | 195 14 |
| Tignish post office, etc | 15,297 23 | | | 15,297 23 |
| Heating, lighting, water, etc., for all buildings in Prince Edward Island (for details see page 40) | | | 10,405 40 | 10,405 40 |
| Totals, Prince Edward Island | 18,884 05 | 3,235 57 | 10,405 40 | 32,525 02 |
| *New Brunswick.* | | | | |
| Aroostook immigration building | | 25 00 | | 25 00 |
| Bathurst post office, etc | | 132 99 | | 132 99 |
| Campbellton post office, etc | 7,953 74 | 2 90 | | 7,956 64 |
| Chatham post office, etc. (enlargement) | 224 90 | 23 00 | | 247 90 |
| " quarantine station | | 1 80 | | 1 80 |
| Dalhousie post office, etc | | 22 17 | | 22 17 |
| Debec Junction immigrant building | | 71 08 | | 71 08 |
| Fairville post office, etc | 9,827 12 | | | 9,827 12 |
| Fredericton post office, etc | 522 59 | 456 15 | | 978 74 |
| " immigrant building | | 2,584 17 | | 2,584 17 |
| " entomology station | 529 04 | | | 529 04 |
| Grand Falls post office, etc | 5,717 81 | | | 5,717 81 |
| " immigrant building | | 60 00 | | 60 00 |
| Hampton post office, etc | 772 80 | | | 772 80 |
| Hartland post office, etc | 6,446 63 | | | 6,446 63 |
| Hillsborough post office, etc | 10,508 59 | | | 10,508 59 |
| Marysville post office, etc | | 64 50 | | 64 50 |
| Milltown post office, etc | 2,113 81 | | | 2,113 81 |
| Moncton post office, etc | | 1,172 89 | | 1,172 89 |
| Newcastle post office, etc | | 199,54 | | 199 54 |
| Richibucto post office, etc | | 102 94 | | 102 94 |
| St. Andrews immigrant building | | 20 65 | | 20 65 |
| St. George public building | 1,627 75 | | | 1,627 75 |
| St. John custom-house | 2,644 62 | 164 50 | | 2,809 12 |
| " cattle quarantine station | | 525 00 | | 525 00 |
| " drill hall | 129,257 03 | | | 129,257 03 |
| " detention hospital | 230 13 | | | 230 13 |
| " engineer's office | | 151 70 | | 151 70 |
| " immigrant building | | 595 15 | | 595 15 |
| " Partridge Island quarantine station | 11,891 39 | | 2,142 81 | 14,034 20 |
| " post office | 2,130 02 | 74 30 | | 2,204 32 |
| " new post office | 722 02 | | | 722 02 |
| " savings bank | 1,931 44 | 25 00 | | 1,956 44 |
| " West post office (Carleton) | | 25 00 | | 25 00 |
| St. Stephens immigrant building | | 15 00 | | 15 00 |
| " post office, etc | | 22 75 | | 22 75 |
| Shediac public building | 999 25 | | | 999 25 |
| Sussex post office, etc | | 33 32 | | 33 32 |
| Tracadie lazaretto | 3,511 16 | | | 3,511 16 |
| Woodstock post office | | 138 15 | | 138 15 |
| Heating, lighting, water, etc., for all buildings in New Brunswick (for details see page 41) | | | 45,864 49 | 45,864 49 |
| Totals, New Brunswick | 199,561 84 | 6,709 65 | 48,007 30 | 254,278 79 |

PART II—STATEMENT A—EXPENDITURE—*Continued.*

| Name of Work. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total. |
|---|---|---|---|---|
| PUBLIC BUILDINGS. | $ cts. | $ cts. | $ cts. | $ cts. |
| *Quebec.* | | | | |
| Acton Vale post office, etc. | | 152 20 | | 152 20 |
| Arthabaskaville post office, etc. | 14,561 11 | | | 14,561 11 |
| Aylmer post office, etc. | | 707 31 | | 707 31 |
| Beauharnois post office, etc. | 922 05 | | | 922 05 |
| Beauport post office, etc. | 2,535 24 | | | 2,535 24 |
| Berthierville post office, etc. | | 42 45 | | 42 45 |
| Buckingham post office, etc. | | 134 49 | | 134 49 |
| Cap Rouge experimental farm | 6,135 54 | | | 6,135 54 |
| Chicoutimi post office, etc. | | 629 48 | | 629 48 |
| Coaticook post office, etc. | | 985 02 | | 985 02 |
| Cookshire post office, etc. | | 1,391 40 | | 1,391 40 |
| Covey Hill (Huntingdon) entomology station | 187 94 | | | 187 94 |
| Drummondville post office, etc. | | 488 70 | | 488 70 |
| Dundee custom-house | | 11 10 | | 11 10 |
| East Angus public building | 5,037 52 | | | 5,037 52 |
| Farnham post office, etc. | | 89 34 | | 89 34 |
| Fraserville armoury | 1,862 40 | | | 1,862 40 |
| " post office, etc. | | 117 72 | | 117 72 |
| Gaspé post office, etc. | 1,293 40 | | | 1,293 40 |
| Granby post office, etc. | | 311 22 | | 311 22 |
| Grand Mère post office, etc. | 10,112 85 | | | 10,112 85 |
| Grosse Isle quarantine station, improvements | 7,092 27 | | | 7,092 27 |
| " quarantine station, new buildings | 40,252 67 | | | 40,252 67 |
| Hochelaga post office, etc. | 363 52 | | | 363 52 |
| Hull post office, etc. | 580 00 | 176 00 | | 756 00 |
| Iberville post office, etc. | | 100 00 | | 100 00 |
| Joliette armoury | 22 40 | | | 22 40 |
| " post office, etc. | 596 76 | 86 87 | | 683 63 |
| Knowlton post office and armoury | | 16 30 | | 16 30 |
| Lachine post office, etc. | | 170 48 | | 170 48 |
| Lachute post office, etc. | | 155 02 | | 155 02 |
| Laprairie post office, etc. | | 45 85 | | 45 85 |
| L'Assomption post office, etc. | | 732 05 | | 732 05 |
| Lévis armoury and gun shed | 27,456 82 | | | 27,456 82 |
| Lévis post office, etc. | | 127 96 | | 127 96 |
| Longueuil post office, etc. | | 21 15 | | 21 15 |
| Louiseville post office, etc. | 3,060 59 | 58 91 | | 3,119 50 |
| Magog post office, etc. | | 127 50 | | 127 50 |
| " armoury | 4 30 | | | 4 30 |
| Maisonneuve post office, etc. | 516 72 | | | 516 72 |
| Marieville post office, etc. | 7,721 01 | | | 7,721 01 |
| Matane post office, etc. | 352 65 | | | 352 65 |
| Megantic post office, etc. | 9,742 05 | 17 60 | | 9,759 65 |
| Montmagny post office, etc. | 318 05 | 56 14 | | 374 19 |
| Montreal Bonaventure station (trucks) | | 383 10 | | 383 10 |
| " Custom's express building (old) | 1,044 87 | 710 58 | | 1,755 45 |
| " custom office (Canal ) | | 3 50 | | 3 50 |
| " custom-house | 1,710 96 | 460 45 | | 2,171 41 |
| " examining warehouse (old) | 2,863 07 | 56 05 | | 2,919 12 |
| " " " power for elevator | | | 739 95 | 739 95 |
| " examining warehouse (new) | 48,224 60 | | | 48,224 60 |
| " immigration office | | 442 18 | | 442 18 |
| " Inland Revenue office | 2,197 20 | 243 37 | | 2,440 57 |
| " Marine and Fisheries agency | | 24 20 | | 24 20 |
| " new barracks | 393 25 | | | 393 25 |
| " new detention hospital | 25,053 95 | | | 25,053 95 |
| " ordnance depot (new) | 1,216 79 | | | 1,216 79 |
| " post office (general) | 201,107 22 | 176 84 | | 201,284 06 |
| " post office, power for elevator, etc. | | | 4,314 45 | 4,314 45 |
| " post office (branch Notre Dame st. W.) | 22,091 30 | | | 22,091 30 |
| " postal station 'A' (Windsor station) | | 8 68 | | 8 68 |
| " postal station 'B' (St. Catherines W.) | | 567 85 | | 567 85 |
| " postal station 'C' (Amherst st.) | 53,722 21 | 113 71 | | 53,835 92 |
| " postal station 'D' (Pte. St. Charles) | 860 98 | 8 50 | | 869 48 |

PART II—STATEMENT A—EXPENDITURE—*Continued.*

| Name of Work. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total. |
|---|---|---|---|---|
| PUBLIC BUILDINGS. | $ cts. | $ cts. | $ cts. | $ cts. |
| *Quebec*—Continued. | | | | |
| Montreal postal station 'E' (St. Louis du Mile End) | | 125 05 | | 125 05 |
| " postal station 'L' (at Westmount) | 28,526 11 | | | 28,526 11 |
| " postal station 'S' (in Emard ward, Cote St. Paul) | 20,273 92 | | | 20,273 92 |
| " St. Lawrence Central | 25,024 25 | | | 25,024 25 |
| " postal station 'H' (to replace 'B') | 282,203 80 | | | 282,203 80 |
| Murray Bay post office, etc | 7,964 70 | | | 7,964 70 |
| Napierville post office, etc | 2,039 20 | | | 2,039 20 |
| Nicolet post office, etc | | 46 06 | | 46 06 |
| Nomingue immigration building | | 139 00 | | 139 00 |
| Peribonka immigration building | | 3 07 | | 3 07 |
| Pierreville post office, etc | | 217 12 | | 217 12 |
| Plessisville post office, etc | | 128 44 | | 128 44 |
| Quebec Citadel, Governor General's quarters | 12,572 09 | 12 30 | | 12,584 39 |
| " C. N. Ry. station (trucks) | 62 70 | | | 62 70 |
| " C. P. Ry. station (trucks) | 30 16 | | | 30 16 |
| " Colonisation Agency (St. John st.) | 77 75 | 10 60 | | 88 35 |
| " custom-house | 92,501 18 | 400 05 | | 92,901 23 |
| " detention hospital | | 2,622 60 | | 2,622 60 |
| " drill hall (extension) | 681 19 | | | 681 19 |
| " East, (St. Roch) post office | 219 86 | 999 75 | | 1,219 61 |
| " East, (St. Roch) post office, power for machinery | | | 50 00 | 50 00 |
| " examining warehouse | | 639 03 | | 639 03 |
| " examining warehouse, power for machinery | | | 131 25 | 131 25 |
| " immigration building (Louise Embankment) | 199,790 57 | 1,071 03 | | 200,861 60 |
| " Inland Revenue (Weights and Measures) | 118 50 | 42 50 | | 161 00 |
| " Marine and Fisheries building | | 111 05 | | 111 05 |
| " new detention building (in Savard Park) | 2,750 00 | | | 2,750 00 |
| " observatory | | 453 94 | | 453 94 |
| " ordnance stores (foot of Palace Hill) | 35 00 | | | 35 00 |
| " post office (enlargement) | 3,754 80 | 3,853 61 | | 7,608 41 |
| " post office, power for machinery | | | 968 75 | 968 75 |
| " St. Sauveur post office | 49 56 | 2 00 | | 51 56 |
| Richmond post office, etc | | 234 20 | | 234 20 |
| Rigaud post office, etc | 9,802 05 | | | 9,802 05 |
| Rimouski post office, etc | | 103 60 | | 103 60 |
| " engineer's office | 238 90 | | | 238 90 |
| Roberval immigration building | 351 85 | 75 29 | | 427 14 |
| " post office, etc | 4,226 43 | | | 4,226 43 |
| Rock Island post office, etc | 15,995 38 | | | 15,995 38 |
| Ste. Agathe des Monts post office, etc | 2,074 55 | | | 2,074 55 |
| Ste. Anne de Bellevue post office, etc | | 425 00 | | 425 00 |
| Ste. Anne de la Pocatière experimental farm | 356 05 | | | 356 05 |
| Ste. Cunegonde post office, etc | | 2 03 | | 2 03 |
| St. Eustache post office, etc | 21 98 | | | 21 98 |
| St. Gabriel de Brandon post office | 2,079 08 | | | 2,079 08 |
| St. Henri post office, etc | 641 19 | 74 68 | | 715 87 |
| St. Hyacinthe Inland Revenue building | | 170 04 | | 170 04 |
| " post office, etc | | 334 47 | | 334 47 |
| St. Jerome post office, etc | 325 00 | 522 92 | | 847 92 |
| St. Johns custom-house | 17 48 | 29 45 | | 46 93 |
| " post office, etc | 36 52 | 101 72 | | 138 24 |
| St. Lambert post office, etc | 20,616 40 | | | 20,616 40 |
| St. Laurent post office, etc | 294 37 | | | 294 37 |
| Ste. Therèse post office, etc | 5,816 45 | | | 5,816 45 |
| Shawinigan Falls post office, etc | 18,822 65 | | | 18,822 65 |
| Sherbrooke post office, etc | 1,807 04 | 559 34 | | 2,366 38 |
| Sorel post office, etc | 585 86 | 1,492 05 | | 2,077 91 |
| Terrebonne post office, etc | | 199 08 | | 199 08 |
| Thetford Mines post office, etc | 123 59 | 280 41 | | 404 00 |
| Three Rivers post office, etc | 153 05 | 418 17 | | 571 22 |
| " new public building | 7,010 14 | | | 7,010 14 |
| Valleyfield post office, etc | 386 62 | 2,757 28 | | 3,143 90 |

PART II—STATEMENT A—EXPENDITURE—*Continued.*

| Name of Work. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total. |
|---|---|---|---|---|
| PUBLIC BUILDINGS. | $ cts. | $ cts. | $ cts. | $ cts. |
| *Quebec*—Continued. | | | | |
| Verdun post office, etc | 53 80 | | | 53 80 |
| Victoriaville post office, etc | | 89 97 | | 89 97 |
| Weedon Station post office, etc | 2,190 38 | | | 2,190 38 |
| Heating, lighting, water, etc., for all buildings in Quebec for details see page 43) | | | 207,550 46 | 207,550 46 |
| Totals, Quebec | 1,273,916 41 | 28,898 17 | 213,754 86 | 1,516,569 44 |
| OTTAWA BUILDINGS. | | | | |
| Departmental Buildings— | | | | |
| Eastern Block addition | 134,548 25 | | | 134,548 25 |
| Western Block—photograph branch, D.P.W | 762 40 | | | 762 40 |
| Improvements in lavatories | 7,901 37 | | | 7,901 37 |
| Parliament Building, improvements | 10,966 31 | | | 10,966 31 |
| Departmental and Parliament Buildings, generally— | | | | |
| Grounds (including pavement and Major's Hill Park) | 19,669 46 | | 20,043 60 | 39,713 06 |
| Grounds, removal of snow | | | 3,632 94 | 3,632 94 |
| Power for elevators, etc | | | 14,594 90 | 14,594 90 |
| Repairs and furniture | | 276,972 33 | | 276,972 33 |
| Steel fittings | 25,024 73 | | | 25,024 73 |
| Telephone service | | | 26,471 00 | 26,471 00 |
| Sites for new Departmental Buildings— | | | | |
| Sussex street | 34,668 36 | | | |
| Wellington street east | 515 90 | | | 996,330 52 |
| Wellington street west | 961,146 26 | | | |
| Archives Building | 512 91 | | | 512 91 |
| Astronomical Observatory | 19,873 27 | | | 19,873 27 |
| Astronomical Observatory, power for machinery | | | 211 78 | 211 78 |
| Bacteriological laboratory | | 967 00 | | 967 00 |
| Experimental farm | 38,789 80 | | | 38,789 80 |
| Experimental farm, tobacco curing station | 2,075 00 | | | 2,075 00 |
| Explosives Testing Building | 706 56 | | | 706 56 |
| Fuel Testing building | 27,309 99 | | | 27,309 99 |
| Methylated Spirits warehouse | 2,924 30 | | | 2,924 30 |
| Mines building (Sussex st.) | 79,929 23 | | | 79,929 23 |
| National Art Gallery | 49,018 96 | | 720 00 | 49,738 96 |
| New Custom building | 91,538 94 | | | 91,538 94 |
| Post office, power for machinery | | | 266 40 | 266 40 |
| Printing Bureau | 6,005 44 | | | 6,005 44 |
| Rideau Hall | 7,056 50 | 13,798 62 | 34,223 85 | 55,078 97 |
| Grounds 12,016 17 | | | | |
| Snow 1,523 00 | | | 23,198 17 | 23,198 17 |
| Fuel and light 9,000 00 | | | | |
| Watchman 659 00 | | | | |
| Victoria Memorial Museum | 86,912 63 | | | 86,912 63 |
| Heating, lighting, etc., for all buildings in Ottawa (for details see page 43) | | | 477,866 95 | 477,866 95 |
| Totals, Ottawa Buildings | 1,607,856 57 | 291,737 95 | 601,229 59 | 2,500,824 11 |
| *Ontario (excluding Ottawa Buildings.)* | | | | |
| Acton post office, etc | 2,814 32 | | | 2,814 32 |
| Alexandria post office, etc | | 470 83 | | 470 83 |
| Allandale railway station (mail trucks) | | 1 05 | | 1 05 |
| Almonte post office, etc | | 255 47 | | 255 47 |
| Amherstburg post office, etc | | 560 94 | | 560 94 |
| Athens post office, etc | 13,263 18 | | | 13,263 18 |
| Aurora post office, etc | 2,012 00 | | | 2,012 00 |
| Aylmer West post office, etc | 5,832 09 | | | 5,832 09 |

PART II—STATEMENT A—EXPENDITURE—*Continued.*

| Name of Work. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total. |
|---|---|---|---|---|
| PUBLIC BUILDINGS. | $ cts. | $ cts. | $ cts. | $ cts. |
| *Ontario*—Continued. | | | | |
| Barrie post office, etc | 4,633 18 | 42 75 | | 4,675 93 |
| " railway station (mail trucks) | | 1 05 | | 1 05 |
| Belleville post office, etc | 1,960 92 | 715 62 | | 2,676 54 |
| Berlin post office, etc | 402 66 | 302 75 | | 705 41 |
| Bowmanville post office, etc | 149 96 | 87 15 | | 237 11 |
| Bracebridge post office, etc | 112 96 | | | 112 96 |
| " railway station (trucks) | | 2 10 | | 2 10 |
| Brampton post office, etc | 156 40 | 4 50 | | 160 90 |
| Brantford armoury, parade ground | 250 00 | | | 250 00 |
| " post office, etc | 328 65 | 82 68 | | 411 33 |
| " new public building | 44,846 38 | | | 44,846 38 |
| Bridgeburg post office, etc | | 220 43 | | 220 43 |
| Brockville post office, etc | 1,171 62 | 259 31 | | 1,430 93 |
| Campbellford post office, etc | 14 01 | | | 14 01 |
| Cardinal post office, etc | 186 53 | | | 186 53 |
| Carleton Place post office, etc | | 20 85 | | 20 85 |
| Cayuga post office, etc | | 44 95 | | 44 95 |
| Chatham post office, etc | 1,548 22 | | | 1,548 22 |
| Chesley post office, etc | 14,799 77 | | | 14,799 77 |
| Clinton post office, etc | | 19 55 | | 19 55 |
| Cobourg post office, etc | 431 77 | 256 18 | | 687 95 |
| Collingwood railway station (trucks) | | 1 05 | | 1 05 |
| " post office, etc | 12,588 99 | | | 12,588 99 |
| Cornwall post office, etc | 1,344 21 | 645 94 | | 1,990 15 |
| Deseronto post office | | 455 23 | | 455 23 |
| Dresden post office | 8,997 32 | | | 8,997 32 |
| Dundas post office | 23,499 14 | 14 38 | | 23,513 52 |
| Durham post office | 4,615 00 | | | 4,615 00 |
| Eganville post office | 605 85 | | | 605 85 |
| Elora post office | 3,297 80 | | | 3,297 80 |
| Elmira post office | 2,096 90 | | | 2,096 90 |
| Essex post office | 16,415 05 | | | 16,415 05 |
| Fergus post office | 4,427 84 | 0 25 | | 4,428 09 |
| " power for machinery | | | 17 75 | 17 75 |
| Fort Frances immigration building | | 62 00 | | 62 00 |
| " public building | 15,077 70 | | | 15,077 70 |
| Fort William post office | 719 95 | 78 97 | | 798 92 |
| " customs examining warehouse | 48,118 20 | | | 48,118 20 |
| Galt post office, etc | 1,120 89 | 42 30 | | 1,163 19 |
| Gananoque post office (addition) | 24,887 13 | 107 30 | | 24,994 43 |
| " customs house | | 170 65 | | 170 65 |
| Glencoe post office, etc | | 27 32 | | 27 32 |
| Goderich post office (addition) | 2,700 06 | 221 16 | | 2,921 22 |
| Grafton post office, etc | | 0 93 | | 0 93 |
| Gravenhurst railway station (mail trucks) | | 1 05 | | 1 05 |
| Grimsby post office, etc | 3,549 24 | | | 3,549 24 |
| Guelph post office, etc | 3,306 98 | 1,180 14 | | 4,487 12 |
| Hamilton custom-house (old) | 11 20 | 7 15 | | 18 35 |
| " Drill hall | 1,024 71 | | | 1,024 71 |
| " examining warehouse (new) | 163 48 | | | 163 48 |
| " Grand Trunk railway station (mail trucks) | 110 00 | | | 110 00 |
| " immigrant building | | 50 65 | | 50 65 |
| " Inland Revenue | 101 77 | 397 00 | | 498 77 |
| " post office, etc | 2,464 04 | 1,388 86 | | 3,852 90 |
| " power for machinery | | | 39 24 | 39 24 |
| " postal station B | 89 47 | 6 50 | | 95 97 |
| Hanover post office, etc | 1,613 65 | | | 1,613 65 |
| Harriston post office, etc | 9,619 29 | | | 9,619 29 |
| Hawkesbury post office, etc | | 36 18 | | 36 18 |
| Hespeler post office, etc | 24 00 | | | 24 00 |
| Huntsville railway station (mail trucks) | | 1 05 | | 1 05 |
| Ingersoll railway station (mail trucks) | | 56 94 | | 56 94 |
| Kemptville post office, etc | 2,070 36 | | | 2,070 36 |
| Kenora post office, etc | | 142 15 | | 142 15 |

PART II.—STATEMENT A—EXPENDITURE—*Continued.*

| Name of Work. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total. |
|---|---|---|---|---|
| PUBLIC BUILDINGS. | $ cts. | $ cts. | $ cts. | $ cts. |
| *Ontario*—Continued. | | | | |
| Kincardine post office, etc | | 116 08 | | 116 08 |
| Kingston custom-house | | 388 39 | | 388 39 |
| " Inland Revenue building | | 155 32 | | 155 32 |
| " Junction station (mail trucks) | 61 75 | | | 61 75 |
| " post office, etc | 30,526 98 | 852 32 | | 31,379 30 |
| " R.M.C., additional dormitory accommodation for cadets | 36,389 38 | | | 36,389 38 |
| Kingsville post office, etc | 29 19 | | | 29 19 |
| Lakefield post office, etc | 2,036 52 | | | 2,036 52 |
| Leamington post office, etc | 1,336 00 | 103 70 | | 1,439 70 |
| Lindsay post office, etc | 1,045 99 | 142 13 | | 1,188 12 |
| Listowel post office, etc | 18,557 83 | | | 18,557 83 |
| London custom-house | 431 74 | 943 38 | | 1,375 12 |
| " immigration building | | 35 35 | | 35 35 |
| " military buildings | | 10 00 | | 10 00 |
| " post office | 677 73 | 932 11 | | 1,609 84 |
| McNichol custom-house | 194 76 | | | 194 76 |
| Markdale railway station (mail trucks) | | 1 05 | | 1 05 |
| Markham post office, etc | 16 00 | | | 16 00 |
| Midland post office, etc | 9,123 14 | | | 9,123 14 |
| Milton post office, etc | 1,809 07 | | | 1,809 07 |
| Milverton post office, etc | 44 00 | | | 44 00 |
| Mitchell post office, etc | 10,469 24 | | | 10,469 24 |
| Morrisburg post office, etc | | 288 00 | | 288 00 |
| Mount Forest public building | 6,031 88 | | | 6,031 88 |
| Napanee post office, etc | | 129 62 | | 129 62 |
| Newmarket post office, etc | 4,822 65 | | | 4,822 65 |
| Niagara Falls armoury | 9,999 41 | | | 9,999 41 |
| " immigration building | | 17 00 | | 17 00 |
| " post office | 3,630 17 | 168 63 | | 3,798 80 |
| North Bay post office, etc | 1,010 40 | 428 51 | | 1,438 91 |
| Orangeville post office, etc | | 14 68 | | 14 68 |
| Orillia post office, etc | 282 06 | 134 58 | | 416 64 |
| " railway station (mail trucks) | | 2 10 | | 2 10 |
| Oshawa post office, etc | 1,589 04 | 17 50 | | 1,606 54 |
| Owen Sound post office, etc | | 165 82 | | 165 82 |
| Palmerston post office, etc | 165 03 | | | 165 03 |
| Paris post office, etc | 160 65 | 60 15 | | 220 80 |
| Parkhill post office, etc | | 11 75 | | 11 75 |
| Pembroke post office, etc | 2,803 99 | 102 69 | | 2,906 68 |
| Penetanguishene custom-house | | 22 96 | | 22 96 |
| " railway station (mail trucks) | | 1 05 | | 1 05 |
| Perth post office, etc | 7,792 45 | | | 7,792 45 |
| Peterboro custom-house | 254 51 | 217 46 | | 471 97 |
| " post office (addition) | 2,709 43 | 431 16 | | 3,140 59 |
| Petrolea post office, etc | 136 42 | 59 30 | | 195 72 |
| Picton post office, etc | | 972 21 | | 972 21 |
| Porcupine custom-house | 354 21 | | | 354 21 |
| Port Arthur armoury | 4,961 54 | | | 4,961 54 |
| " custom-house and examining warehouse | 59,426 87 | | | 59,426 87 |
| " immigration building | | 586 14 | | 586 14 |
| " post office (addition) | | 174 97 | | 174 97 |
| Port Colborne post office, etc | 870 40 | 38 48 | | 908 88 |
| Port Hope post office, etc | 6,855 53 | 73 90 | | 6,929 43 |
| Port McNichol custom-house | | 5 00 | | 5 00 |
| Port Perry post office, etc | 13,790 15 | | | 13,790 15 |
| Prescott public buildings | 282 03 | 339 84 | | 621 87 |
| Preston post office, etc | 6,045 47 | | | 6,045 47 |
| Renfrew post office, etc | 1,683 09 | 135 43 | | 1,818 52 |
| Sandwich post office, etc | | 22 60 | | 22 60 |
| Sarnia post office, etc | 1,731 39 | 87 11 | | 1,818 50 |
| Sault Ste. Marie post office, etc | 7,958 03 | 324 32 | | 8,282 35 |
| " immigration building | | 74 00 | | 74 00 |
| Seaforth post office, etc | 14,872 39 | | | 14,872 39 |
| Shelburne post office, etc | 1,256 00 | | | 1,256 00 |

PART II—STATEMENT A—EXPENDITURE—*Continued.*

| Name of Work. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total. |
|---|---|---|---|---|
| PUBLIC BUILDINGS. | $ cts. | $ cts. | $ cts. | $ cts. |
| *Ontario*—Continued. | | | | |
| Simcoe post office, etc. | | 110 35 | | 110 35 |
| " railway station (mail truck) | 62 59 | | | 62 59 |
| Smiths Falls post office, etc. | | 83 65 | | 83 65 |
| Steelton post office, etc. | 5,087 85 | | | 5,087 85 |
| Stratford post office, etc. | 1,130 04 | 445 38 | | 1,575 42 |
| Strathroy post office, etc. | | 206 15 | | 206 15 |
| St. Catharines post office, etc. | 2,884 15 | 127 24 | | 3,011 39 |
| " experimental farm | 112 60 | | | 112 60 |
| St. Mary's post office, etc. | | 164 61 | | 164 61 |
| St. Thomas post office, etc. | | 115 20 | | 115 20 |
| Sudbury post office, etc. | 20,059 65 | | | 20,059 65 |
| Tilbury post office, etc. | 14,320 83 | | | 14,320 83 |
| Tilsonburg post office, etc. | 14,690 31 | | | 14,690 31 |
| Toronto custom-house | 772 45 | 231 71 | | 1,004 16 |
| " custom-house, power for elevators | | | 129 60 | 129 60 |
| " district engineer's office (Confederation Life Building) | | 205 00 | | 205 00 |
| " examining warehouse | 19,205 24 | 1,251 82 | | 20,457 06 |
| " examining warehouse, power for machinery | | | 122 79 | 122 79 |
| " express customs office | | 106 50 | | 106 50 |
| " immigrant building (Union station) | | 5 05 | | 5 05 |
| " Inland Revenue office | 665 80 | 266 71 | | 932 51 |
| " meteorological observatory | 507 65 | 192 60 | | 700 25 |
| " military buildings (barracks) | 2,726 79 | | | 2,726 79 |
| " military building (new stores building) | 500 00 | | | 500 00 |
| " postal motor garage (Richmond st.) | 80,648 90 | | | 80,648 90 |
| " postal motor garage (Richmond st.), power for machinery | | | 51 35 | 51 35 |
| " post office garage for motor trucks (Duchess st.) | 631 71 | 76 35 | | 708 06 |
| " post office | 16,248 85 | 1,629 05 | | 17,877 90 |
| " post office, power for elevators | | | 670 06 | 670 06 |
| " postal station A | 222 85 | 277 00 | | 499 85 |
| " postal station A, power for machinery | | | 163 62 | 163 62 |
| " postal station B | | 27 84 | | 27 84 |
| " postal station C | | 141 84 | | 141 84 |
| " postal station—College st.—Spadina ave. | 50,102 05 | | | 50,102 05 |
| " postal station D | | 352 57 | | 352 57 |
| " postal station E | | 246 60 | | 246 60 |
| " postal station E, power for machinery | | | 32 33 | 32 33 |
| " postal station F | | 1,037 82 | | 1,037 82 |
| " East, postal station G | 35,016 90 | 136 33 | | 35,153 23 |
| " North, postal station K | 25,139 21 | 104 21 | | 25,243 42 |
| " temporary postal station (exhibition) | | 156 65 | | 156 65 |
| Trenton post office, etc. | | 649 10 | | 649 10 |
| Uxbridge post office, etc. | 13,285 08 | | | 13,285 08 |
| Walkerton post office, etc. | | 14 80 | | 14 80 |
| Walkerville post office, etc. | 50 00 | | | 50 00 |
| " custom-house | 295 48 | | | 295 48 |
| Wallaceburg post office | 979 94 | | | 979 94 |
| Waterloo post office | 17,418 86 | 20 00 | | 17,438 86 |
| Watford post office | 2,636 10 | | | 2,636 10 |
| Welland post office | | 143 46 | | 143 46 |
| Whitby post office | | 60 19 | | 60 19 |
| Wiarton post office | 106 86 | | | 106 86 |
| Willow Creek | 100 00 | | | 100 00 |
| Windsor ferry dock custom-house | 474 18 | | | 474 18 |
| " cattle quarantine station | | 263 30 | | 263 30 |
| " post office, etc. | 422 21 | 899 27 | | 1,321 48 |
| Wingham post office, etc. | 135 85 | 74 44 | | 210 29 |
| Woodstock armoury | | 36 50 | | 36 50 |
| " post office, etc. | | 207 56 | | 207 56 |
| Heating, lighting, water, etc., for all buildings in Ontario, exclusive of Ottawa (for details, see page 45) | | | 172,608 21 | 172,608 21 |
| Totals, Ontario (exclusive of Ottawa) | 890,440 33 | 27,296 95 | 173,834 95 | 1,091,572 23 |

PART II—STATEMENT A—EXPENDITURE—*Continued.*

| Name of Work. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total. |
|---|---|---|---|---|
| PUBLIC BUILDINGS. | $ cts. | $ cts. | $ cts. | $ cts. |
| *Manitoba.* | | | | |
| Bannerman cattle Quarantine station | | 241 27 | | 241 27 |
| Brandon experimental farm | 388 28 | 50 00 | | 438 28 |
| " Immigration building | | 104 08 | | 104 08 |
| " post office (addition) | 2,002 38 | 409 34 | | 2,411 72 |
| Carman post office | 18 55 | | | 18 55 |
| Dauphin post office | | 456 15 | | 456 15 |
| Douglas forestry office | 61 87 | | | 61 87 |
| Emerson cattle quarantine station | 1,274 45 | | | 1,274 45 |
| " immigration building | 2,319 60 | | | 2,319 60 |
| " post office, etc | | 55 45 | | 55 45 |
| " post office, power for machinery | | | 17 25 | 17 25 |
| Kellwood forestry office | 114 00 | | | 114 00 |
| Melita post office, etc | 1,418 40 | | | 1,418 40 |
| Minnedosa public building (with armoury accommodation) | 436 79 | | | 436 79 |
| Morden post office | 306 27 | | | 306 27 |
| Neepawa post office | | 107 35 | | 107 35 |
| Portage la Prairie post office | 13,152 10 | 65 48 | | 13,217 58 |
| Ratlin Forestry office | 63 53 | | | 63 53 |
| St. Boniface post office, etc | | 117 41 | | 117 41 |
| " post office, etc., power for machinery | | | 1 03 | 1 03 |
| Selkirk post office, etc | | 87 50 | | 87 50 |
| Souris post office, etc | 2,358 22 | 1,265 96 | | 3,624 18 |
| Virden post office, etc | 6,292 94 | | | 6,292 94 |
| " immigration building | | 45 00 | | 45 00 |
| Winnipeg C.N.R. station (mail trucks) | | 25 50 | | 25 50 |
| " C. P. R. station (mail trucks | 117 60 | | | 117 60 |
| " custom-house | 2,152 91 | 151 00 | | 2,303 91 |
| " custom-house, power for machinery | | | 100 26 | 100 26 |
| " examining warehouse | 1,941 36 | 50 00 | | 1,991 36 |
| " examining warehouse, power for machinery | | | 218 77 | 218 77 |
| " Grain exhibit building (immigration building No. 5) | | 3 56 | | 3 56 |
| " immigration buildings | 2,026 67 | 1,438 09 | | 3,464 76 |
| " Indian Affairs, Weights and Measures (Bawlf Block) | 437 85 | | | 437 85 |
| " Indian Affairs, Weights and Measures (Bawlf Block) power for machinery | | | 29 41 | 29 41 |
| " post office | 7,717 95 | 305 50 | | 8,023 45 |
| " post office , power for machinery | | | 403 46 | 403 46 |
| " postal station 'A' (north of C.P.R. track) | 634 71 | 200 72 | | 835 43 |
| " postal station 'B' | | 158 55 | | 158 55 |
| " Railway Commissioner's office | 49 20 | | | 49 20 |
| " sundry buildings, to pay city pavement, sewers, etc | 13,000 00 | | | 13,000 00 |
| Heating, lighting, water, etc., for all buildings in Manitoba (for details see page 46) | | | 71,602 06 | 71,602 06 |
| Totals, Manitoba | 58,285 63 | 5,337 91 | 72,372 24 | 135,995 78 |
| *Saskatchewan and Alberta.* | | | | |
| Alsask immigration building | | 6 55 | | 6 55 |
| Banff Dominion Parks building | | 244 23 | | 244 23 |
| Bassano post office, etc | 48 04 | | | 48 04 |
| Battleford immigration building | | 35 00 | | 35 00 |
| " public building | 4,271 48 | | | 4,271 48 |
| Biggar immigration building | 24 25 | 18 50 | | 42 75 |
| Calgary examining warehouse | 120,542 92 | 82 60 | | 120,625 52 |
| " gas and electric inspector's office | | 84 10 | | 84 10 |
| " grain inspection shed | | 30 00 | | 30 00 |
| " immigration building | 23,365 40 | 17 90 | | 23,383 30 |
| " Inland Revenue office | 27 60 | | | 27 60 |

PART II—STATEMENT A—EXPENDITURE—*Continued.*

| Name of Work. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total. |
|---|---|---|---|---|
| PUBLIC BUILDINGS. | $ cts. | $ cts. | $ cts. | $ cts. |
| *Saskatchewan and Alberta*—Continued. | | | | |
| Calgary irrigation commissioner's office | 1,254 20 | 111 70 | | 1,365 90 |
| " new post office | 205,378 42 | | | 205,378 42 |
| " rating station for Geodetic Survey | | 71 09 | | 71 09 |
| " Ry. Commissioner's office (Bruner building) | 416 25 | | | 416 25 |
| " temporary post office | 3,107 55 | 1,432 89 | | 4,540 44 |
| " temporary post office, power for machinery | | | 295 00 | 295 00 |
| " Weights and Measures office (Costello building) | 570 00 | | | 570 00 |
| Carlyle forestry office | 90 87 | | | 90 87 |
| Castor immigration building | 26 25 | | | 26 25 |
| Coutts cattle quarantine station | 2,200 00 | | | 2,200 00 |
| Edmonton Dominion Lands office | 631 46 | 5 05 | | 636 51 |
| " customs-house | | 68 00 | | 68 00 |
| " examining warehouse | | 50 00 | | 50 00 |
| " Inland Revenue office | | 27 76 | | 27 76 |
| " immigration building | | 1,114 44 | | 1,114 44 |
| " post office, etc | 5,074 64 | 748 10 | | 5,822 74 |
| " post office, etc., power for machinery | | | 705 22 | 705 22 |
| Edson forestry office | 229 00 | | | 229 00 |
| " immigration building | 23 50 | 93 00 | | 116 50 |
| Entwhistle immigration building | | 29 00 | | 29 00 |
| Estevan post office, etc | | 170 60 | | 170 60 |
| Grand Prairie Dominion Lands office | 198 84 | | | 198 84 |
| Gravelbourg immigration building | 4,548 90 | | | 4,548 90 |
| " telegraph office, etc | 2,295 25 | | | 2,295 25 |
| Grouard Dominion Lands office | 45 00 | | | 45 00 |
| Humboldt post office, etc | 25,000 00 | | | 25,000 00 |
| Indian Head experimental farm | 21,775 94 | | | 21,775 94 |
| " forestry station | 5,145 24 | | | 5,145 24 |
| Kerr-Robert immigration building | 544 63 | | | 544 63 |
| Lacombe experimental farm | 599 19 | | | 599 19 |
| Lethbridge custom-house and Dominion Lands office | 360 67 | 190 45 | | 551 12 |
| " experimental farm | 802 37 | | | 802 37 |
| " immigration building | | 223 20 | | 223 20 |
| " post office, etc | | 114 46 | | 114 46 |
| " public building (New) | 43,475 84 | | | 43,475 84 |
| Lloydminster immigration building | | 0 15 | | 0 15 |
| " post office, etc | 27,305 25 | | | 27,305 25 |
| Macleod customs-house | | 200 15 | | 200 15 |
| Maple Creek post office | 964 91 | 184 85 | | 1,149 76 |
| " Dominion Lands office | 257 40 | | | 257 40 |
| Medicine Hat immigration building | | 61 26 | | 61 26 |
| " post office, etc | 1,005 15 | 409 60 | | 1,414 75 |
| Melfort post office, etc | 30,011 20 | | | 30,011 20 |
| Moosejaw Dominion Lands office | | 70 00 | | 70 00 |
| " immigration building | 1,057 64 | 36 05 | | 1,093 69 |
| " Inland Revenue office | | 10 00 | | 10 00 |
| " post office, etc | 603 46 | 218 65 | | 822 11 |
| " public building (new) | 99,943 10 | | | 99,943 10 |
| " Ry. mail service | 688 51 | | | 688 51 |
| North Battleford immigration building | | 39 10 | | 39 10 |
| " post office, etc | 174 80 | | | 174 80 |
| North Portal cattle quarantine station | 2,042 56 | | | 2,042 56 |
| " immigration building | | 40 00 | | 40 00 |
| Pincher Creek forestry office | 75 00 | | | 75 00 |
| Prince Albert immigration building | | 250 50 | | 250 50 |
| " penitentiary | 236 20 | | | 236 20 |
| " post office | 225 90 | 590 37 | | 816 27 |
| Red Deer public building | 1,993 41 | 118 90 | | 2,112 31 |
| Regina, armoury and drill hall | 200 00 | | | 200 00 |
| " Dominion Lands office | | 165 48 | | 165 48 |
| " immigration building | | 7 25 | | 7 25 |
| " public building (to complete) | 10,046 76 | 384 59 | | 10,431 35 |
| " public building, power for machinery | | | 306 90 | 306 90 |
| " railway station (mail trucks) | 111 43 | | | 111 43 |

PART II—STATEMENT A—EXPENDITURE—*Continued.*

| Name of Work. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total. |
|---|---|---|---|---|
| PUBLIC BUILDINGS. | $ cts. | $ cts. | $ cts. | $ cts. |
| *Saskatchewan and Alberta*—Concluded. | | | | |
| Rosthern experimental farm | 706 30 | | | 706 30 |
| Saskatoon Inland Revenue office | 240 75 | | | 240 75 |
| " immigration building | 5 00 | 687 45 | | 692 45 |
| " nursery station | 368 18 | | | 368 18 |
| " post office, etc | 5,183 20 | | | 5,183 20 |
| Strathcona armoury | 23,713 93 | | | 23,713 93 |
| " public building | 17,531 64 | 101 05 | | 17,632 69 |
| " immigration building | | 102 33 | | 102 33 |
| Swift Current custom-house | 266 25 | | | 266 25 |
| " Dominion Lands office | | 75 00 | | 75 00 |
| " immigration building | | 133 49 | | 133 49 |
| " post office | 378 80 | | | 378 80 |
| Tisdale immigration building | | 11 80 | | 11 80 |
| Vegreville immigration building | | 95 05 | | 95 05 |
| Viking immigration building | 110 00 | 87 40 | | 197 40 |
| Wadena experimental farm | 20 10 | | | 20 10 |
| " immigration building | | 23 65 | | 23 65 |
| Wetaskiwin post office, etc | 20,233 32 | 11 95 | | 20,245 27 |
| Weyburn post office, etc | 25,138 62 | | | 25,138 62 |
| Wilkie immigration building | | 18 00 | | 18 00 |
| Yorkton post office, etc | 281 00 | 553 05 | | 834 05 |
| Heating, lighting, water, etc., for all buildings in Saskatchewan and Alberta (for details see page 47) | | | 98,333 18 | 98,333 18 |
| Totals, Saskatchewan and Alberta | 743,193 47 | 9,655 74 | 99,640 30 | 852,489 51 |
| *British Columbia.* | | | | |
| Agassiz experimental farm | 11,014 00 | | | 11,014 00 |
| " cattle quarantine station | 192 10 | | | 192 10 |
| Ashcroft post office, etc | 1,527 25 | | | 1,527 25 |
| Atlin post office, etc | | 214 55 | | 214 55 |
| Chilliwack post office, etc | 34,822 29 | | | 34,822 29 |
| Comox post office, etc | 4,105 16 | | | 4,105 16 |
| Cranbrook post office, etc | 33,365 20 | 3 00 | | 33,368 20 |
| Cumberland post office, etc | 1,615 11 | 23 55 | | 1,638 66 |
| Duncan Station post office, etc | 10,069 65 | | | 10,069 65 |
| Fernie drill hall | 35 40 | | | 35 40 |
| " post office | | 72 59 | | 72 59 |
| Grand Forks public building | 28,226 45 | | | 28,226 45 |
| Greenwood post office, etc | 375 64 | | | 375 64 |
| Huntington custom house | 93 50 | | | 93 50 |
| Kamloops public building (new) | 1,644 35 | 463 21 | | 2,107 56 |
| Keremeos cattle quarantine station | 3,003 50 | | | 3,003 50 |
| Kelowna custom house | 203 19 | | | 203 19 |
| Ladysmith post office, etc | | 141 00 | | 141 00 |
| Merritt post office | 3,919 25 | | | 3,919 25 |
| Mission City immigration building | | 113 28 | | 113 28 |
| " post office, etc | 2,501 50 | | | 2,501 50 |
| Nanaimo post office, etc. (extension) | 11,058 98 | 173 75 | | 11,232 73 |
| Nelson post office, (addition) | 5,832 11 | 218 83 | | 6,050 94 |
| New Westminster examining warehouse | 990 00 | | | 990 00 |
| " " Fisheries and Indian offices | | 108 82 | | 108 82 |
| " " immigration building | | 30 00 | | 30 00 |
| " " post office, etc | 1,253 97 | 691 19 | | 1,945 16 |
| North Vancouver post office, etc | 80,000 00 | 203 44 | | 80,203 44 |
| Port Alberni custon house | 352 45 | | | 352 45 |
| Prince Rupert public building, etc | 79,069 50 | 173 40 | | 79,242 90 |
| " Fisheries, building | 156 87 | | | 156 87 |
| " quarantine station | 1,565 03 | | | 1,565 03 |
| Revelstoke public building | 176 08 | | | 176 08 |
| Rossland post office, etc | 320 00 | 400 15 | | 720 15 |

PART II—STATEMENT A—EXPENDITURE—*Continued.*

| Name of Work. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total. |
|---|---|---|---|---|
| PUBLIC BUILDINGS. | $ cts. | $ cts. | $ cts. | $ cts. |
| *British Columbia*—Concluded. | | | | |
| Soda Creek post office, etc | 2,305 25 | | | 2,305 25 |
| Union Bay post office, etc | 13 70 | | | 13 70 |
| Vancouver Canadian Express office (Customs) | | 4 50 | | 4 50 |
| " drill hall | 49,999 99 | | | 49,999 99 |
| " examining warehouse | 214,019 82 | 214 75 | | 214,234 57 |
| " post office (new) | 18,377 18 | 3,044 12 | | 21,421 30 |
| " " " power for machinery | | | 464 35 | 464 35 |
| " post office (old) | 909 00 | 588 87 | | 1,497 87 |
| " postal station ('C') | 25,586 43 | | | 25,586 43 |
| " Ry. mail service building | 4,926 07 | | | 4,926 00 |
| " Sulphur dioxide fumigating plant | 2,600 00 | | | 2,600 07 |
| Vernon post office, etc | 10,192 47 | 55 76 | | 10,248 23 |
| Victoria examining warehouse, (Amos Molden build'g) | 1,492 90 | | | 1,492 90 |
| " power for machinery | | | 10 60 | 10 60 |
| " immigration detention hospital | 2,991 12 | 502 80 | | 3,493 92 |
| " Marine and Indian offices (formerly old custom house) | 491 30 | 508 77 | | 1,000 07 |
| " power for machinery | | | 14 85 | 14 85 |
| " post office (new) | 11,422 46 | 3,379 46 | | 14,801 92 |
| " power for machinery | | | 414 91 | 414 91 |
| " post office (old) | | 784 24 | | 784 24 |
| " sulphur dioxide fumigating plant | 2,600 00 | | | 2,600 00 |
| Waneta custom-house | 263 40 | | | 263 40 |
| White Rock cattle quarantine station | 2,705 00 | | | 2,705 00 |
| Williams Head quarantine station | 19,961 41 | 202,00 | | 20,163 41 |
| Heating, lighting, water, etc., for all buildings in British Columbia for details, (see page 48) | | | 68,469 56 | 68,469 56 |
| Totals, British Columbia | 688,346 03 | 12,316 03 | 69,374 27 | 770,036 33 |
| *Yukon Territory.* | | | | |
| Carcross custom-house | 113 00 | | | 113 00 |
| White Horse post office, etc | 3,046 78 | | | 3,046 78 |
| Heating, lighting, water, etc., for all buildings in Yukon Territory | | | 61,951 63 | 61,951 63 |
| Totals, Yukon Territory | 3,159 78 | | 61,951 63 | 65,111 41 |
| *Public Buildings Generally.* | | | | |
| Advertising coal tenders Dominion buildings | | | 1,895 81 | 1,895 81 |
| Flags for Dominion buildings | | | 1,982 57 | 1,982 57 |
| Printing, stationery, instruments, travelling, etc. | | | 19,483 25 | 19,483 25 |
| Salaries of resident clerks of works | | | 35,858 79 | 35,858 79 |
| Totals, Public Buildings generally | | | 59,220 42 | 59,220 42 |

| HARBOURS AND RIVERS. *Nova Scotia.* | Dredging. | | | | |
|---|---|---|---|---|---|
| Abercrombie wharf | 4,311 44 | | | | 4,311 44 |
| Alder Point (Cape Breton Co.) | 14,263 36 | | | | 14,263 36 |
| Amaguadees Pond (Castle Bay) extn. of wharf | | 300 04 | | | 300 04 |
| Amherst wharf | 5,621 42 | 214 80 | | | 5,836 22 |
| Amherst Point wharf | | | 503 37 | | 503 37 |
| Anderson's Cove breakwater | | 2,999 59 | | | 2,999 59 |
| Annapolis Ice piers | | 21,570 18 | | | 21,570 18 |
| Antigonish wharf | | | 67 06 | | 67 06 |
| Arichat, retaining wall | | 600 00 | | | 600 00 |

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PART II—STATEMENT A—EXPENDITURE—*Continued.*

| Name of Work. | Dredging. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total. |
|---|---|---|---|---|---|
| HARBOURS AND RIVERS. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| *Nova Scotia*—Continued. | | | | | |
| Arisaig wharf | | 1,566 94 | | | 1,566 94 |
| Arnold's Cove | 255 92 | | | | 255 92 |
| Avonport breakwater | | 2,000 00 | | | 2,000 00 |
| Avon River, dykes | | 2,028 94 | | | 2,028 94 |
| Babin's Cove wharf | | | 191 65 | | 191 65 |
| Baddeck wharf | | | 417 22 | | 417 22 |
| " McKay's Point | 1,847 20 | | | | 1,847 20 |
| " McDonald's wharf | 326 26 | | | | 326 26 |
| " old pier and ballast wharf | 1,200 68 | | | | 1,200 68 |
| Barrington's Cove (see Sydney Mines) | | | | | |
| Bass River wharf | | | 1,849 74 | | 1,849 74 |
| Battery Point breakwater | | 2,634 48 | | | 2,634 48 |
| Bear Cove, removal of rocks | | 500 03 | | | 500 03 |
| Bear River wharf | | 4,703 53 | | | 4,703 53 |
| Belliveau Cove, breakwater | | 1,699 98 | | | 1,699 98 |
| Big Lorraine | 5,619 83 | | | | 5,619 83 |
| Black Hole harbr, removal of boulders | | 49 75 | | | 49 75 |
| Black Point (Grand River) breakwater | | | 508 43 | | 508 43 |
| Blanch, breakwater | | 1,998 90 | | | 1,998 90 |
| Blondin, see Whitewaters. | | | | | |
| Boisdale, new wharf | | 66 90 | | | 66 90 |
| Breen's Pond breakwater | | 13,099 99 | | | 13,099 99 |
| Bridegwater | 21 33 | | | | 21 33 |
| Broad Cove Marsh wharf | | | 33 49 | | 33 49 |
| Brooklyn Harbour, at mouth | 698 57 | | | | 698 57 |
| " breakwater | | 49,125 37 | | | 49,125 37 |
| Brule wharf | | 2,010 44 | | | 2,010 44 |
| Burke's Head, breakwater | | 15,085 00 | | | 15,085 00 |
| Burlington wharf | | | 600 00 | | 600 00 |
| Burying Island, breakwater | | | 50 00 | | 50 00 |
| Canada Creek, breakwater | | | 169 35 | | 169 35 |
| Cape Auget, wharf | | 276 20 | | | 276 20 |
| Cap Rouge, breakwater | | 16,518 50 | | | 16,518 50 |
| Cape Island wharf, (see Centreville). | | | | | |
| Caribou Island, causeway | | 1,400 02 | | | 1,400 02 |
| Carr's Brook, wharf | | 97 23 | | | 97 23 |
| Centreville (Cape Island) wharf | | 2,325 95 | | | 2,325 95 |
| Centreville (Trout Cove) breakwater | | 37,500 10 | | | 37,500 10 |
| Cheggogin, groyne | | 984 05 | | | 984 05 |
| Chester, to complete canal | 2,299 00 | | | | 2,299 00 |
| Cheticamp wharf (Eastern Harbour) | 8,726 27 | | 199 35 | | 8,925 62 |
| Church Point, sluice gates | | 369 34 | | | 369 34 |
| Cole Harbour, wharf | | 22 55 | | | 22 55 |
| Coffin's Island | 579 75 | | | | 579 75 |
| Cottage Cove, breakwater | | 1,200 07 | | | 1,200 07 |
| Cow Bay (Port Morien) | | 2,999 99 | | | 2,999 99 |
| Creignish, landing pier | | 2,650 26 | | | 2,650 26 |
| Cribbin's Point wharf | | | 1,000 45 | | 1,000 45 |
| Croft's Cove, boat landing | | | 1,001 50 | | 1,001 50 |
| Delaps Cove, harbour impts | | 1,375 49 | | | 1,375 49 |
| D'Escousse | 2,222 08 | | | | 2,222 08 |
| Devil's Island breakwater | | 13,862 59 | | | 13,862 59 |
| Digby harbour improvements | 15,321 18 | 5,640 93 | | | 20,962 11 |
| Diligent River, wharf | | 2,486 71 | | | 2,486 71 |
| Drum Head, wharf | | 492 94 | | | 492 94 |
| Duncan's Cove, breakwater | | 7,120 00 | | | 7,120 00 |
| East Bay wharf, approach | | 80 00 | | | 80 00 |
| East Chezzetcook, breakwater | | 7,042 20 | | | 7,042 20 |
| Eastern Harbour, (see Cheticamp.) | | | | | |
| Eastern Passage, breakwater | | | 193 45 | | 193 45 |
| Eastern Point (Lunenburg Co.) | 599 92 | | | | 599 92 |
| East Jeddore, wharf | | | 336 67 | | 336 67 |
| East River (Pictou Co.) | 49,137 19 | | | | 49,137 19 |
| East Ship Harbour, wharf | | 1,000 01 | | | 1,000 01 |

PART II.—STATEMENT A.—EXPENDITURE—*Continued.*

| Name of Work. | Dredging. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total. |
|---|---|---|---|---|---|
| HARBOURS AND RIVERS. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| *Nova Scotia*—Continued. | | | | | |
| Ecum Secum, wharf | | 599 89 | | | 599 89 |
| Eel Brook, wharf | | 1,020 50 | | | 1,020 50 |
| Englishtown, wharf | | | 8 81 | | 8 81 |
| Falls Point, (see Woods Harbour.) | | | | | |
| Feltzen South (Spindler's Cove), breakwater | | 103 40 | 466 55 | | 569 95 |
| Finlay Point, wharf | | 1,000 00 | | | 1,000 00 |
| Five Islands, wharf | | | 452 24 | | 452 24 |
| Fourchu, wharf | | 1,281 30 | | | 1,281 30 |
| Fox Island, breakwater, extension | | 1,894 84 | | | 1,894 84 |
| French River (north shore), breakwater | | 12 58 | | | 12 58 |
| Fruid's Point, removal of boulders | | 3,227 25 | | | 3,227 25 |
| Gabarus Harbour, wharf | | 23 40 | | | 23 40 |
| Gillis Point (east), wharf | | 2,091 49 | | | 2,091 49 |
| Glace Bay, protection work | | 780 49 | | | 780 49 |
| Grand Narrows, wharf | | | 229 25 | | 229 25 |
| Grand Etang, protection work | 6,350 19 | | 3,000 00 | | 9,350 19 |
| Great Village, berth for vessels at wharf | | 497 45 | | | 497 45 |
| Hall's Harbour, breakwater | | | 785 54 | | 785 54 |
| Hampton, breakwater extension | | 548 05 | | | 548 05 |
| Hantsport, wharf | | 19 43 | | | 19 43 |
| Harbour au Bouche, wharf | | | 124 58 | | 124 58 |
| Harbourville, breakwater | | | 999 65 | | 999 65 |
| Herring Cove, wharf | | 1,332 22 | | | 1,332 22 |
| Herring Rocks, (see Port Joli.) | | | | | |
| Inverness, harbour improvements | | 2,596 90 | | | 2,596 90 |
| Joggins Mines, breakwater | | 1,348 60 | | | 1,348 60 |
| Jones Harbour, removal of rocks | | 900 00 | | | 900 00 |
| Kelly's Cove, old breakwater | | | 348 64 | | 348 64 |
| Kingsport, breakwater | | | 386 95 | | 386 95 |
| Kraut Point, wharf | | 2,501 39 | | | 2,501 39 |
| La Have River | 3,888 96 | | | | 3,888 96 |
| L'Ardoise, breakwater | | | 799 94 | | 799 94 |
| Larry's River | 20,780 20 | | | | 20,780 20 |
| Leitch's Creek, wharf | | 849 85 | | | 849 85 |
| Leonard's Cove, breakwater | | 899 88 | | | 899 88 |
| Litchfield, breakwater | | 2,580 02 | | | 2,580 02 |
| Little Anse, breakwater | | 15,972 50 | | | 15,972 50 |
| Little Bras d'Or, breakwater | 2,090 32 | 15 66 | | | 2,105 98 |
| Little Harbour, improvements | | 1,457 31 | | | 1,457 31 |
| Little Narrows (North wharf) | | 563 10 | | | 563 10 |
| " (South wharf) | | | 100 04 | | 100 04 |
| Little River, breakwater: wharf (freight shed) | | 383 81 | | | 383 81 |
| Liverpool | 37,322 16 | | | | 37,322 16 |
| Livingston's Cove, breakwater | | 2,000 54 | | | 2,000 54 |
| Lockeport (Shelburne Co.) | 99 00 | | | | 99 00 |
| Louis Head, breakwater | | 4,099 96 | | | 4,099 96 |
| Lunenburg | 51,137 61 | | | | 51,137 61 |
| McNair's Cove, breakwater—wharf | 36 00 | 1,302 06 | | | 1,338 06 |
| Mabou Harbour, breakwater | 4,399 83 | 2,087 10 | 199 61 | | 6,686 54 |
| Maitland, wharf | | | 499 45 | | 499 45 |
| Margaree Harbour, breakwater | 6,805 93 | | | | 6,805 93 |
| Margaree Island, wharf | | | 435 11 | | 435 11 |
| Margaretsville, breakwater | | | 2,000 00 | | 2,000 00 |
| Melford, wharf | | 5,878 38 | | | 5,878 38 |
| Merigomish Harbour, wharf | | | 387 63 | | 387 63 |
| " (Big Island), wharf | | | 249 94 | | 249 94 |
| Meteghan River, wharf | | 2,597 33 | | | 2,597 33 |
| " extension and restoration of wharf | | 4,507 72 | | | 4,507 72 |
| Middle West Pubnico, wharf | | | 399 74 | | 399 74 |
| Milford Haven, removal of old pier | | 315 05 | | | 315 05 |
| Mill Cove | 15,981 49 | | | | 15,981 49 |

PART II—STATEMENT A—EXPENDITURE—*Continued.*

| Name of Work. | Dredging. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total. |
|---|---|---|---|---|---|
| HARBOURS AND RIVERS. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| *Nova Scotia*—Continued. | | | | | |
| Mill Creek, wharf improvements | | 1,000 77 | | | 1,000 77 |
| Mira River | 940 61 | | | | 940 61 |
| Mochelle, wharf | | 26 45 | | | 26 45 |
| Morden, breakwater | | | 300 00 | | 300 00 |
| Mulgrave, wharf | | 1,267 69 | | | 1,267 69 |
| Mushaboom, wharf | | 805 75 | | | 805 75 |
| Musquodoboit Harbour, wharf | | 1,528 57 | | | 1,528 57 |
| Necum Teuch, wharf | | | 494 45 | | 494 45 |
| Neil's Harbour, breakwater | | | 1,698 79 | | 1,698 79 |
| Newellton, wharf extension | | 619 43 | | | 619 43 |
| New Haven, wharf extension | | 1,435 54 | | | 1,435 54 |
| Newport Landing, wharf | | | 61 87 | | 61 87 |
| North River, wharf | | 1,419 41 | | | 1,419 41 |
| North Sydney, N.S., Steel and Coal Co's wharf | 577 26 | | | | 577 26 |
| North Sydney, I.C.R. wharf | 1,690 70 | | | | 1,690 70 |
| North West Cove (see Tancook Island). | | | | | |
| Ogilvie's wharf | | | 999 79 | | 999 79 |
| Orangedale, wharf | | 109 30 | | | 109 30 |
| Peggy's Cove, sea wall | | 400 00 | | | 400 00 |
| Petite Rivière, breakwater | | | 2,395 87 | | 2,395 87 |
| Petit de Grat | 14,219 77 | | | | 14,219 77 |
| Phinney's Cove, breakwater | | 2,342 47 | | | 2,342 47 |
| Picket's Cove, wharf | | | 150 36 | | 150 36 |
| Pictou, I.C.R. dock | 2,556 06 | | | | 2,556 06 |
| Piper's Cove, breakwater-pier | | 1,992 93 | | | 1,992 93 |
| Pleasant Bay, wharf | | | 1,182 67 | | 1,182 67 |
| Port Dufferin Harbour, wharf on west side of harbour | | 2,938 03 | | | 2,938 03 |
| Porter's lake, boat channel to Three Fathom Harbour | | 217 00 | | | 217 00 |
| Port Greville, wharf | | 4,828 73 | | | 4,828 73 |
| Port Hawkesbury | 9,006 00 | | | | 9,006 00 |
| Port Hood, wharf | | | 195 77 | | 195 77 |
| Port Joli, wharf | | | 551 33 | | 551 33 |
| Port Lorne, breakwater | | | 1,000 10 | | 1,000 10 |
| Port Maitland, tidal pond | | 200 00 | | | 200 00 |
| Port Morien (see Cow Bay). | | | | | |
| Port Mouton, wharf | | | 346 54 | | 346 54 |
| Port Wade, piers | | | 226 76 | | 226 76 |
| River Bourgeois | 14,497 02 | | | | 14,497 02 |
| River Hebert, wharf | | | 455 44 | | 455 44 |
| Riverport | 205 86 | | | | 205 86 |
| Round Hill, wharf | | | 189 04 | | 189 04 |
| Salmon River Harbour, protection works | | 971 31 | | | 971 31 |
| Sandy Cove, breakwater extension | | 1,347 80 | | | 1,347 80 |
| Sanford, wharf | | | 393 83 | | 393 83 |
| Scott's Bay, breakwater | | 2,513 00 | | | 2,513 00 |
| Seaforth, breakwater | | 244 73 | | | 244 73 |
| Seal Island, wharf | | 2,733 83 | | | 2,733 83 |
| Sheet Harbour, East River, wharf | | | 571 02 | | 571 02 |
| Sheet Harbour Passage, wharf | | 199 37 | | | 199 37 |
| Shelburne Harbour, deep-water wharf | | 4,390 70 | | | 4,390 70 |
| Skinner's Cove, wharf | | | 398 40 | | 398 40 |
| Smiley's Point, breakwater | | 2,209 29 | | | 2,209 29 |
| Sober Island, wharf | | 914 59 | | | 914 59 |
| Sonora Channel | 14,874 44 | | | | 14,874 44 |
| South Cove (Cape Breton), wharf | | 313 31 | | | 313 31 |
| South Gut (St. Ann's), wharf | | 105 70 | | | 105 70 |
| South Lake (Lakevale), extension of channel protection | | 96 01 | | | 96 01 |
| Spencer's Island, wharf | | | 1,600 73 | | 1,600 73 |
| Spindler's Cove (see Feltzen South). | | | | | |
| Sterling Brook, wharf | | 1,419 32 | | | 1,419 32 |

PART II—STATEMENT A—EXPENDITURE—*Continued.*

| Name of Work. | Dredging. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total. |
|---|---|---|---|---|---|
| HARBOURS AND RIVERS. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| *Nova Scotia*—Continued. | | | | | |
| Stoney Island, breakwater and protection work | | 1,822 27 | | | 1,822 27 |
| St. Joseph, boat harbour | | 11,149 81 | | | 11,149 81 |
| St. Mary's River, removal of obstructions | | 504 65 | | | 504 65 |
| Sydney Harbour, South bar | | 7,734 57 | | | 7,734 57 |
| " Whitney pier | 9,527 22 | | | | 9,527 22 |
| Sydney Mines, wharf at Barrington's Cove | | 11,002 19 | | | 11,002 19 |
| Tancook Island, wharf at North West Cove | | | 207 97 | | 207 97 |
| Tatamagouche, wharf | | | 891 84 | | 891 84 |
| Tenecape, breakwater | | | 500 00 | | 500 00 |
| The Wharves (Lunenburg Co.), breakwater | | 2,005 96 | | | 2,005 96 |
| Three Fathom Harbour, breakwater | | | 2,000 00 | | 2,000 00 |
| Three Fathom Harbour, breakwater between two islands | | 1,008 00 | | | 1,008 00 |
| Three Island Cove | 5,845 82 | | | | 5,845 82 |
| Tittle Passage (Canso) | 1,493 39 | | | | 1,493 39 |
| Tiverton, removal of boulders | | 496 75 | | | 496 75 |
| Toney River, extension of channel protection piers | | 1,603 12 | | | 1,603 12 |
| Trout Cove (see Centreville). | | | | | |
| Tusket Wedge, wharf | | 1,709 81 | | | 1,709 81 |
| Victoria Pier | | 3,553 52 | | | 3,553 52 |
| Walton, wharf | | 18 71 | | | 18 71 |
| Wallace Harbour (South), wharf | 1,459 85 | | 2,917 49 | | 4,377 34 |
| Watt Settlement, wharf | | 3,239 42 | | | 3,239 42 |
| West Advocate, breakwater | | 16,892 00 | | | 16,892 00 |
| West Arichat, breakwater | | | 2,138 95 | | 2,138 95 |
| West Chezzetcook, breakwater pier | | 1,223 25 | 600 62 | | 1,823 87 |
| Western Head, breakwater | | | 1,493 01 | | 1,493 01 |
| Western Shore, wharf | | 2,801 91 | | | 2,801 91 |
| Westport, wharf | | 467 88 | | | 467 88 |
| Weymouth Harbour | 5,622 39 | | | | 5,622 39 |
| White Point, old breakwater | | | 566 05 | | 566 05 |
| Whitewaters, wharf | | | 997 01 | | 997 01 |
| Windsor Harbour, improvements | 3,520 18 | | 382 62 | | 3,902 80 |
| Wolfville, protection werks | | 2,285 79 | | | 2,285 79 |
| Woods Harbour, breakwater at Fall Point | | 1,800 00 | | | 1,800 00 |
| Yarmouth Harbour | 32,679 60 | | | | 32,679 60 |
| Young's Landing, pier | | | 677 57 | | 677 57 |
| Generally | 3,687 84 | | | 8,325 33 | 12,013 17 |
| Totals, Nova Scotia. | 384,347 10 | 404,900 08 | 45,581 29 | 8,325 33 | 843,153 80 |
| *Prince Edward Island.* | | | | | |
| Annandale, wharf | | | 224 85 | | 224 85 |
| Belfast, pier | | | 300 36 | | 300 36 |
| Bay View, pier | | 401 02 | | | 401 02 |
| Belle River, wharf | | 1,128 65 | | | 1,128 65 |
| Bonshaw, (see West River.) | | | | | |
| Cape Traverse, wharf | | | 785 28 | | 785 28 |
| Cascumpec (Gordon's Point), wharf | | 2,631 00 | | | 2,631 00 |
| Charlottetown (Falconwood asylum) | 6,390 95 | | | | 6,390 95 |
| China Point, pier | | | 158 14 | | 158 14 |
| Cove Head, repairs to harbour works | | | 1,190 68 | | 1,190 68 |
| Crapaud (Victoria pier) | | | 499 97 | | 499 97 |
| Franklyn Point, (North River) | | 1,190 58 | | | 1,190 58 |
| Georgetown Harbour | 2,093 52 | | | | 2,093 52 |
| Gordon's Point, (see Cascumpec.) | | | | | |

PART II—STATEMENT A—EXPENDITURE—*Continued.*

| Name of Work. | Dredging. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total. |
|---|---|---|---|---|---|
| HARBOURS AND RIVERS. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| *Prince Edward Island*—Concluded. | | | | | |
| Graham's Pond, breakwater | | 1,241 71 | | | 1,241 71 |
| Grand River (North), pier | | 497 67 | | | 497 67 |
| Grand River (South), wharf | | 4,475 00 | | | 4,475 00 |
| Hickey's wharf | 1,037 39 | 486 13 | | | 1,523 52 |
| Hurd's Point, pier | | | 969 25 | | 969 25 |
| Kier's Shore, pier | | | 199 77 | | 199 77 |
| Miminigash Harbour | 6,365 86 | 932 32 | | | 7,298 18 |
| Mount Stewart | 3,728 11 | | | | 3,728 11 |
| Montague River | 6,209 48 | | | | 6,209 48 |
| Naufrage Pond, breakwater and approach | | 7,306 75 | | | 7,306 75 |
| New London, harbour works | | 1,271 95 | | | 1,271 95 |
| Newport, (see North Cardigan.) | | | | | |
| Nine Mile creek, pier | | | 497 31 | | 497 31 |
| North Cardigan (Newport pier) | | | 480 08 | | 480 08 |
| North River, (see Franklyn Point.) | | | | | |
| Port Selkirk, wharf reconstruction | | 694 40 | | | 694 40 |
| Pownal, wharf | | | 279 06 | | 279 06 |
| Red Point, wharf | | | 1,152 29 | | 1,152 29 |
| Robinson's Island, breakwater | | | 526 65 | | 526 65 |
| St. Mary's Bay, wharf | | | 100 05 | | 100 05 |
| St. Peter's Bay (Head), wharf, reconstruction | | 2 24 | | | 2 24 |
| St. Peter's Bay, breakwater | | | 970 07 | | 970 07 |
| Souris Harbour breakwater | 11,398 27 | 132 31 | | | 11,530 58 |
| South Port wharf, reconstruction | 4,978 67 | 4,032 29 | | | 9,010 96 |
| Summerside Harbour | 67,614 36 | | | | 67,614 36 |
| Tignish, protection piers | 5,943 17 | 4,000 35 | | | 9,943 52 |
| Tracadie, breakwater | | 11,395 00 | | | 11,395 00 |
| Vernon River, pier, (South) | 3,026 59 | 1,454 34 | | | 4,480 93 |
| Victoria pier, (see Crapaud.) | | | | | |
| West Point, wharf | | | 99 37 | | 99 37 |
| West River, pier at Bonshaw | | 437 77 | | | 437 77 |
| Wood Islands, southern breakwater | | 7,209 75 | | | 7,209 75 |
| Generally | 1,843 94 | | | 2,751 48 | 4,595 42 |
| Totals, Prince Edward Island | 120,630 31 | 50,921 23 | 8,433 18 | 2,751 48 | 182,736 20 |
| *New Brunswick.* | | | | | |
| Albert, wharf | | 481 65 | | | 481 65 |
| Anderson's Hollow, wharf | | | 646 24 | | 646 24 |
| Baie du Vin, wharf | | | 49 43 | | 49 43 |
| Bathurst | 53,796 54 | | | | 53,796 54 |
| Beaver Harbour | 241 01 | | | | 241 01 |
| Black River | 446 10 | | | | 446 10 |
| Black River breakwater, pier | | 4,006 57 | | | 4,006 57 |
| Black River wharf | | 994 50 | | | 994 50 |
| Bridgetown | 32 50 | | | | 32 50 |
| Buctouche, breakwater | | | 902 25 | | 902 25 |
| Buctouche, beach | 10,325 73 | | | | 10,325 73 |
| Campbellton, deepwater wharf | 10,951 56 | 2,792 08 | | | 13,743 64 |
| Campbellton, Shives wharf | 4,770 20 | | | | 4,770 20 |
| Campbellton, Canada wharf | 4,138 66 | | | | 4,138 66 |
| Campbellton, head block to Market wharf | 4,068 27 | 1,533 79 | | | 5,602 06 |
| Cape Bald, breakwater | | 4,347 58 | | | 4,347 58 |
| Cape Tormentine, breakwater | | 5,232 51 | | | 5,232 51 |
| Caraquet | 2,707 52 | | | | 2,707 52 |
| Castalia, breakwater | | 6,335 50 | | | 6,335 50 |
| Chance Harbour breakwater | | 3,250 01 | | | 3,250 01 |
| Chatham (shed) | 109 08 | 1,088 49 | | | 1,197 57 |
| Chatham, Canada dock | 921 75 | | | | 921 75 |

PART II—STATEMENT A—EXPENDITURE—*Continued.*

| Name of Work. | Dredging. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total. |
|---|---|---|---|---|---|
| HARBOURS AND RIVERS. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| *New Brunswick*—Continued. | | | | | |
| Chatham, Snowballs, Upper Mills wharf | 3,036 99 | | | | 3,036 99 |
| Chatham, Public wharf, slip | 175 00 | | | | 175 00 |
| Chipman | 2,747 91 | | | | 2,747 91 |
| Chockfish, breakwater, (South) | | 591 63 | | | 591 63 |
| Dalhousie Harbour | 34,077 30 | | | | 34,077 30 |
| Dalhousie, breakwater | | 16,083 00 | | | 16,083 00 |
| Dey's Landing | 1,128 55 | | | | 1,128 55 |
| Dipper Harbour, breakwater | 4,874 14 | 5,805 10 | | | 10,679 24 |
| Dorchester, wharf | | 1,209 17 | | | 1,209 17 |
| Douglastown, (Northumberland Co.) | 2,088 55 | | | | 2,088 55 |
| Durham wharf, river St. John | 335 35 | | | | 335 35 |
| Fairhaven, pier-head | | 83 92 | | | 83 92 |
| Fredericton | 38,550 77 | | | | 38,550 77 |
| Gardner's Creek, harbour works | | | 835 98 | | 835 98 |
| Gautreau, wharf | | | 181 25 | | 181 25 |
| Goose Creek Harbour, breakwater | | 1,932 40 | | | 1,932 40 |
| Grande Anse, new groyne | | 2,073 96 | | | 2,073 96 |
| Grandigue, wharf | | 4,967 61 | | | 4,967 61 |
| Grassy Island | 25,320 00 | | | | 25,320 00 |
| Great Salmon River, to close-pile west pier | | 2,658 42 | | | 2,658 42 |
| Green Point, breakwater | | 38 44 | | | 38 44 |
| Hatfield's Point, (Kings Co.) | 687 50 | | | | 687 50 |
| Hopewell Cape, wharf | | | 2,525 81 | | 2,525 81 |
| Kouchibougouac, harbour works | | 1,999 56 | | | 1,999 56 |
| Lameque, wharf | | | 270 83 | | 270 83 |
| Lawlor's Shore, (see Miramichi River.) | | | | | |
| L'Etang, wharf | | | 1,292 37 | | 1,292 37 |
| Little Aldouane | 121 49 | | | | 121 49 |
| Little Black River | 3,725 00 | | | | 3,725 00 |
| Little Gully, breakwater | | 2,315 33 | | | 2,315 33 |
| Loggieville, wharf | 13,271 81 | | 1,773 81 | | 15,045 62 |
| Lorneville, breakwater—wharf | | 454 20 | | | 454 20 |
| Marble Cove (St. John) | 12,095 72 | | | | 12,095 72 |
| Mill Cove, wharf | | 1,598 18 | | | 1,598 18 |
| Millerton, wharf | | 71 20 | | | 71 20 |
| Miramichi Bay | 33,398 98 | | | | 33,398 98 |
| Miramichi river— | | | | | |
| Lawlor's Shore | 2,057 51 | | | | 2,057 51 |
| Nelson | 177 82 | | | | 177 82 |
| Sinclair's Wharf | 2,032 99 | | | | 2,032 99 |
| Miscou, wharf extension | | 5,018 64 | | | 5,018 64 |
| Mispec, breakwater | | | 1,122 51 | | 1,122 51 |
| Moncton, wharf | | | 256 10 | | 256 10 |
| Nashwaak River | 867 68 | | | | 867 68 |
| Neguac, wharf | | 2,344 22 | | | 2,344 22 |
| Newcastle— | | | | | |
| Crandall's wharf | 1,186 71 | | | | 1,186 71 |
| Ferry slip | 354 62 | | | | 354 62 |
| Norden's wharf | 1,027 77 | | | | 1,027 77 |
| Ritchie's wharf | 217 50 | | | | 217 50 |
| North Head, (Grand Manan) breakwater wharf | | 166 77 | | | 166 77 |
| Ox Island Bar (Sunbury Co.) | 2,611 76 | | | | 2,611 76 |
| Perry Point | 3,596 39 | | | | 3,596 39 |
| Petite Lameque, wharf | | 11 80 | | | 11 80 |
| Petit Rocher, breakwater | | 1,518 86 | | | 1,518 86 |
| Pointe du Chene, retaining wall | | 1,040 11 | | | 1,040 11 |
| Pointe Sapin, breakwater | | 15,752 50 | | | 15,752 50 |
| Quaco, piers | | | 3,552 65 | | 3,552 65 |
| Restigouche River | 567 83 | | | | 567 83 |
| Rexton, close piling | | 1,447 50 | | | 1,447 50 |
| Richibucto Harbour, entrance | 23,823 35 | | | | 23,823 35 |
| Richibucto, wharf approach | | 12,574 88 | | | 12,574 88 |

PART II—STATEMENT A—EXPENDITURE—*Continued.*

| Name of Work. | Dredging. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total. |
|---|---|---|---|---|---|
| HARBOURS AND RIVERS. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| *New Brunswick*—Continued. | | | | | |
| Richibucto Cape, breakwater-wharf | | 11,938 29 | | | 11,938 29 |
| Richibucto Beach, piers on north and south sides | | 19,638 30 | | | 19,638 30 |
| River Ste. Croix | 707 90 | | | | 707 90 |
| River St. John and tributaries— | | | | | |
| Baker Lake 550 64 | | | | | |
| Chapman's Farm, Sisson Brook 250 55 | | | | | |
| Edmundston (Fred Lajoie) 300 00 | | | | | |
| Grand Falls to Arostook 197 90 | | | | | |
| Grand River 195 75 | | | | | |
| Grant's Reef 92 98 | | | | | |
| Green River, below Emmerson's Falls 146 53 | | | | | |
| Green River, above Emmerson's Falls 150 00 | | | | | |
| Green River, right-hand bar 99 90 | | | | | |
| Iroquois River at St. Jacques 176 09 | | | | | |
| Iroquois River at Madawaska 143 95 | | | | | |
| Muniac Rapids 105 80 | | | | | |
| Riley Brook, Tobique Riv. 1,178 66 | | | | | |
| Rocky Brook 100 51 | | | | | |
| St. Francis (Little) 149 75 | | | | | |
| St. Francis Riv! 100 01 | | | | | |
| Siegas River 150 00 | | | | | |
| Sisson Brook 199 65 | | | | | |
| Tilley 199 21 | | | | | |
| Generally 880 10 | 38 50 | 5,367 98 | | | 6,206 48 |
| River St. John, wharfs in tidal waters— | | | | | |
| Brundage Point 133 25 | | | | | |
| Fredericton 10,229 59 | | | | | |
| McAllister's 7 00 | | | | | |
| Scotchtown 13 50 | | | | | |
| Upper Maugerville 2,269 34 | | | | | |
| Generally 70 20 | | | | | |
| | | 12,722 88 | | | 12,722 88 |
| River St. Louis, wharf | 1,831 45 | 3,425 85 | | | 5,257 30 |
| St. Andrews wharf | 14,970 62 | 2,624 89 | | | 17,595 51 |
| St. George | 20,222 16 | | | | 20,222 16 |
| St. John Harbour— | | | | | |
| Beacon Bar | 489,043 64 | | | | 489,043 64 |
| Channel | 70,167 53 | | | | 70,167 53 |
| Courtenay Bay | 415,987 05 | | | | 415,987 05 |
| C.P.R. wharf | | 2,713 50 | | | 2,713 50 |
| Fort Dufferin | | 3,619 17 | | | 3,619 17 |
| I.C.R. wharf | | 4,280 16 | | | 4,280 16 |
| Negro Point, breakwater | | 21,311 67 | | | 21,311 67 |
| Partridge Island, quarantine wharf | | | 179 43 | | 179 43 |
| St. John West, deep-water wharfs, etc | 5,444 02 | 188,130 67 | | | 193,574 69 |
| St. Louis, training walls | | 885 63 | | | 885 63 |
| St. Martin, wharf | | 56 96 | | | 56 96 |
| Sackville, wharf | | 14,362 03 | | | 14,362 03 |
| Seal Cove, breakwater | | 803 27 | | | 803 27 |
| " (Grand Manan breakwater-pier) | | 204 60 | | | 204 60 |
| Shediac, wharf | 21,314 56 | 1,154 29 | | | 22,468 85 |
| Shippigan Gully | 43 00 | 2,858 88 | | | 2,901 88 |
| Tracadie Harbour, breastworks | | 505 85 | | | 505 85 |
| " wharf | | | 1,061 54 | | 1,061 54 |
| Trynor's Cove, wharf | | 259 00 | | | 259 00 |

PART II—STATEMENT A—EXPENDITURE—*Continued.*

| Name of Work. | Dredging. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total. |
|---|---|---|---|---|---|
| HARBOURS AND RIVERS. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| *New Brunswick*—Concluded. | | | | | |
| Tynemouth Creek | | 596 16 | | | 596 16 |
| Upper Salmon River, pier | | 5,860 27 | | | 5,860 27 |
| Welchpool (Grand Manan) wharf | | 997 64 | | | 997 64 |
| Westfield, high-water wharf | | 11 27 | | | 11 27 |
| Whitehead, wharf | 54 00 | | | | 54 00 |
| Woodland's wharf | | 152 34 | | | 152 34 |
| Generally | 3,687 84 | | | 16,929 80 | 20,617 64 |
| Totals, New Brunswick | 1,350,978 18 | 416,301 63 | 14,650 20 | 16,929 80 | 1,798,859 81 |
| *Quebec.* | | | | | |
| Amherst wharf, Magdalen Islands | 16,486 11 | 8,991 55 | | | 25,477 66 |
| Angers (l'Ange Gardien) wharf | | 601 63 | | | 601 63 |
| Anse à Beaufils, addition to piers | | 8 25 | | | 8 25 |
| Anse à la Grosse Roche (Saguenay) | | | 1,164 10 | | 1,164 10 |
| Anse à l'Eau, wharf | | | 499 59 | | 499 59 |
| Anse aux Gascons, wharf | | | 1,496 43 | | 1,496 43 |
| Anse St. Jean, wharf | | | 143 04 | | 143 04 |
| Aylmer (Lake Deschênes) wharf | 3,203 38 | | | | 3,203 38 |
| Baie St. Paul (Cap aux Corbeau) wharf | 3,300 24 | | 1,994 01 | | 5,294 25 |
| Barachois de Malbaie, pier | | 3,092 55 | | | 3,092 55 |
| Batiscan, wharf | 4,057 00 | 8,199 02 | | | 12,256 02 |
| Beaulac (Garthby) wharf extension | | 497 49 | | | 497 49 |
| Beauport, wharf | | | 936 29 | | 936 29 |
| Belœil, wharf | | 4,897 39 | | | 4,897 39 |
| " construction of new booms | | 448 18 | | | 448 18 |
| Bergeronnes wharf extension | | 600 61 | | | 600 61 |
| Berthier-en-bas, wharf | | | 499 96 | | 499 96 |
| Berthierville wharf | 11,439 35 | 7,359 57 | | | 18,798 92 |
| Bic Harbour (old wharf) | | | 993 68 | | 993 68 |
| Bic, wharf at Pointe à Coté | | 7,094 87 | | | 7,094 87 |
| Bryants Landing, regrading of approach | | 349 98 | | | 349 98 |
| Buckingham (Riv. du Lièvre) | | | 249 51 | | 249 51 |
| Cabano Landing pier | | 2,497 00 | | | 2,497 00 |
| Cacouna wharf (head block) | | 5 00 | | | 5 00 |
| Cannes de Roches, breakwater | | 1,027 63 | | | 1,027 63 |
| Canton Fabre (see Fabre). | | | | | |
| Cap à l'Aigle wharf | | 2,125 09 | | | 2,125 09 |
| Cap Chatte, extension of training pier | | 5,174 43 | | | 5,174 43 |
| Cape Cove, pier extension | | 7,195 80 | | | 7,195 80 |
| Cap de la Madeleine wharf | | 1,368 71 | 37 80 | | 1,406 51 |
| Cap St. Ignace wharf extension | | 12,301 80 | | | 12,301 80 |
| Cap Santé wharf | | | 289 68 | | 289 68 |
| Carleton wharf | | | 922 67 | | 922 67 |
| Caughnawaga | 881 50 | | | | 881 50 |
| Champeau (see Mission point). | | | | | |
| Chateau Richer, breakwater, pier | | 623 06 | | | 623 06 |
| Chicoutimi wharf | | 6,867 54 | | | 6,867 54 |
| " repairs to sewer | | | 4,345 07 | | 4,345 07 |
| Chicoutimi Basin, wharf | 180 06 | | | | 180 06 |
| Como | 557 05 | | | | 557 05 |
| Contrecœur wharf | | 1,266 85 | | | 1,266 85 |
| Coteau du Lac, wharf | | | 28 97 | | 28 97 |
| Coteau Landing wharf | | 2,558 53 | | | 2,558 53 |
| Cross Point wharf | | | 462 51 | | 462 51 |
| Deschambault wharf | | | 230 85 | | 230 85 |
| Desjardins wharf | | | 531 47 | | 531 47 |
| Dorion | 250 00 | | | | 250 00 |
| Dorval | 1,308 74 | | | | 1,308 74 |
| Douglastown, extension of breakwater | | 5,291 13 | | | 5,291 13 |
| Echafaud Basques, removal of boulders | | 500 00 | | | 500 00 |
| Escoumains, pier | | | 992 85 | | 992 85 |
| Fabre, raising wharf | | 4,219 76 | | | 4,219 76 |

PART II—STATEMENT A—EXPENDITURE—*Continued.*

| Name of Work. | Dredging. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total. |
|---|---|---|---|---|---|
| HARBOURS AND RIVERS. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| *Quebec*—Continued. | | | | | |
| Fassett wharf (Ottawa River) | | 626 00 | | | 626 00 |
| Father Pt. wharf approach | | | 3,132 43 | | 3,132 43 |
| Fort Coulonge (See La Passe). | | | | | |
| Fort William wharf (River Ottawa) | | 1,726 25 | | | 1,726 25 |
| Fraserville (See Riv.-du-Loup en bas). | | | | | |
| Garthby (See Beaulac). | | | | | |
| Gaspé, deep-water wharf | | 100,054 30 | | | 100,054 30 |
| Gaspé Basin, extension of landing pier | | 10 50 | | | 10 50 |
| Gatineau Point (see Rivière Gatineau) | | | | | |
| Georgeville wharf | | | 1,136 71 | 6 00 | 1,142 71 |
| Glen Almond (Riv. du Lièvre) | | | 40 00 | | 40 00 |
| Graham, wharf | | | 35 87 | | 35 87 |
| Grandes Bergeronnes, removal of b'l'ders | | 310 74 | | | 310 74 |
| Grand Marsh (see Ste. Clothilde). | | | | | |
| Grands Méchins wharf | | | 1,002 02 | | 1,002 02 |
| Grande Rivière de Gaspé, wharf | | 5,297 28 | | | 5,297 28 |
| Grande Vallée, breakwater pier | | 106 70 | | | 106 70 |
| Green Shoals (Ottawa Riv.) | 12,512 56 | | | | 12,512 56 |
| Grindstone wharf, Magdalen Islands | | | 353 25 | | 353 25 |
| Grondines wharf | | 151 98 | | | 151 98 |
| Grosse Isle quarantine Sta., wharf, etc. | 1,145 34 | 29,989 13 | | | 31,134 47 |
| Grosse Roche (see Anse à la Grosse Roche). | | | | | |
| Harrington Harbour wharf | | 1,799 11 | | | 1,799 11 |
| Hudson wharf | 891 01 | | 999 50 | | 1,890 51 |
| Hull wharf | | | 470 92 | 167 00 | 637 92 |
| Ile aux Coudres, head block | | 503 11 | | | 503 11 |
| Ile aux Grues wharf (north side) | | | 144 01 | | 144 01 |
| Ile aux Noix wharf | | | 919 08 | | 919 08 |
| Ile Perrot wharf (south) | | | 219 87 | | 219 87 |
| Ile Verte improvements | | 3,506 91 | 2,328 46 | | 5,835 37 |
| Kamouraska, addition to wharf | | 565 82 | | | 565 82 |
| Knowlton Landing wharf | | | 93 31 | | 93 31 |
| Lachine | 335 70 | | | | 335 70 |
| Lacolle wharf | 1,372 95 | | 460 71 | | 1,833 66 |
| Lake Aylmer (see Stratford Centre). | | | | | |
| Lanoraie, wharf extension | 5,093 40 | 342 31 | | | 5,435 71 |
| Laprairie wharf | | 3,976 23 | | | 3,976 23 |
| Laprairie protection wall | | 15,056 79 | | | 15,056 79 |
| La Passe (Fort Coulonge) wharf | | | 48 29 | | 48 29 |
| Lavaltrie, movable storehouse | 2,929 98 | 697 80 | | | 3,627 78 |
| Les Eboulements, wharf and shed | | | 3,194 36 | | 3,194 36 |
| Les Ecureuils wharf | | | 49 16 | | 49 16 |
| Levis deep water wharf, etc | | 81,129 54 | | | 81,129 54 |
| Levis graving dock | | | | 17,444 42 | 17,444 42 |
| L'Islet wharf repairs | | | 642 38 | | 642 38 |
| Little Metis, removal of boulders | | 149 22 | | | 149 22 |
| Long Rapids (Riv. du Lièvre) | 899 18 | | 84 39 | | 983 57 |
| Longueuil wharf | 2,033 47 | 2,374 94 | | | 4,408 41 |
| Lotbinière wharf | | | 1,417 48 | | 1,417 48 |
| Louiseville (see Riv. du Loup en haut). | | | | | |
| Magog wharf | | 149 74 | | | 149 74 |
| Malbaie (Gaspé) (see St. George de Malbaie.) | | | | | |
| Maria, new protection wall | | 799 94 | | | 799 94 |
| Maria wharf | | | 973 92 | | 973 92 |
| Masson wharf | | | 99 66 | | 99 66 |
| Matane breakwater | | 24,362 60 | | | 24,362 60 |
| Matane landing pier | | | 2,233 84 | | 2,233 84 |
| Mille Vaches, removal of boulders | | 1,001 94 | | | 1,001 94 |
| Mission Point (Champeau) | 17,598 12 | | | | 17,598 12 |
| Mistassini wharf (Lake St. John) | | 800 30 | | | 800 30 |
| Mistook wharf | | 849 46 | | | 849 46 |
| Montmagny, protection wall north east side of Basin | | 4,509 31 | | | 4,509 31 |

PART II—STATEMENT A—EXPENDITURE—*Continued.*

| Name of Work. | Dredging. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total. |
|---|---|---|---|---|---|
| HARBOURS AND RIVERS. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| *Quebec*—Continued. | | | | | |
| Montmagny, wharf | | | 747 00 | | 747 00 |
| Murray Bay, wharf | | 3,315 15 | | | 3,315 15 |
| Natashquan breakwater pier | | 3,873 12 | | | 3,873 12 |
| New Carlisle wharf | | | 99 89 | | 99 89 |
| New Richmond, landing pier | | | 50 00 | | 50 00 |
| Nicolet, extension of jetty | | 1,255 55 | | | 1,255 55 |
| Nicolet harbour | 31,684 14 | | | | 31,684 14 |
| Nicolet wharf | | 3,992 80 | | | 3,992 80 |
| Norway Bay wharf (River Ottawa) | | 2,751 48 | | | 2,751 48 |
| Notre Dame de la Salette (River du Lievre) | 755 00 | | 114 13 | | 869 13 |
| Papineauville wharf | | 434 27 | | | 434 27 |
| Peel Head Bay, wharf and approach | | | 761 59 | | 761 59 |
| Percé, wharf | | | 74 88 | | 74 88 |
| Percé (White Head), removal of boulders | | 8 00 | | | 8 00 |
| Percé (Red Head), removal of boulders | | 14 00 | | | 14 00 |
| Peribonka training dykes (Lake St. John) | | 6 25 | | | 6 25 |
| Peribonka, wharf (Lake St. John) | | 619 47 | | | 619 47 |
| Perkin's Landing, wharf | | | 50 00 | | 50 00 |
| Petites Bergeronnes, removal of boulders | | 532 08 | | | 532 08 |
| Petite Bonaventure, breakwater | | | 89 29 | | 89 29 |
| Petite Rivière Est, wharf approach | | | 74 70 | | 74 70 |
| Petite River Saguenay wharf | | 349 59 | | | 349 59 |
| Phillipsburg wharf | | | 597 54 | | 597 54 |
| Piché Point (see Pointe Piché). | | | | | |
| Pierreville wharf | | | 400 02 | | 400 02 |
| Piopolis wharf | | 329 16 | | | 329 16 |
| Pointe à Brousseau Harbour, protection works | | 488 43 | | | 488 43 |
| Pointe à Elie wharf (Magdalen Islands) | | 5,782 58 | | | 5,782 58 |
| Pointe à la Loupe, protection works | | 1,499 05 | | | 1,499 05 |
| Pointe aux Anglais (Co. Deux Montagnes) | 936 56 | | | | 936 56 |
| Pointe aux Esquimaux, wharf | | | 1,669 72 | | 1,669 72 |
| Pointe aux Trembles (en haut) | 3,234 30 | | | | 3,234 30 |
| Pointe aux Trembles (Portneuf) | | | 443 19 | | 443 19 |
| Pointe Claire, wharf | | | 768 31 | | 768 31 |
| Pointe Fortune, wharf | | | 244 79 | | 244 79 |
| Pointe Piché, wharf (Timiscamingue) | | 8,449 32 | | | 8,449 32 |
| Poltimore (River du Lièvre) | | 307 00 | | | 307 00 |
| Port Daniel, wharf | | | 921 04 | | 921 04 |
| Port Lewis (see Riv. St. Francois). | | | | | |
| Poupore (Riv. du Lièvre), training pier | 1,371 59 | 2,887 30 | 53 50 | | 4,312 39 |
| Quebec harbour, improvements to navigation | 210,722 65 | 1,851 14 | | | 212,573 79 |
| Red Head (see Percé). | | | | | |
| Repentigny, wharf | | | | 10 00 | 10 00 |
| Rimouski breakwater wharf | | 22,125 65 | | | 22,125 65 |
| Rimouski, wharf | 5,136 64 | 4,554 80 | | 983 54 | 10,674 98 |
| Rivière aux Outardes, removal of boulders | | 388 74 | | | 388 74 |
| Rivière aux Vases (Co. Saguenay), wharf | | 1,121 53 | | | 1,121 53 |
| Rivière Batiscan, landing pier | 9,279 68 | 185 52 | | | 9,465 20 |
| Rivière Bergeronnes, removal of boulders | | 268 54 | | | 268 54 |
| Rivière Blanche wharf (Co. Rimouski) | | | 348 44 | | 348 44 |
| Rivière Bonaventure, training pier | | 117 48 | | | 117 48 |
| Rivière Caplan, protection piers | | 106 25 | | | 106 25 |
| Rivière des Prairies | 2,203 71 | | | | 2,203 71 |
| Rivière du Lièvre, lock | 835 62 | | 297 17 | 1,741 89 | 2,874 68 |
| Rivière du Loup (en haut), lock and dam, Louiseville | 1,178 25 | 1,042 95 | | | 2,221 20 |
| Rivière du Loup (Fraserville) | | | 5,130 43 | | 5,130 43 |

PART II—STATEMENT A—EXPENDITURE—*Continued.*

| Name of Work. | Dredging. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total. |
|---|---|---|---|---|---|
| HARBOURS AND RIVERS. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| *Quebec*—Continued. | | | | | |
| Rivière du Loup (Fraserville), new wharf | | 35 00 | | | 35 00 |
| Rivière Gatineau, erosion at Gatineau Point | | 986 16 | | | 986 16 |
| Rivière Godefroy wharf (Nicolet Co.) | | | 1,012 40 | | 1,012 40 |
| Rivière Laguerre, improvements | | 1,973 83 | | | 1,973 83 |
| Rivière Mistassini (see Mistassini). | | | | | |
| Rivière Ouelle, wharf | | | 1,477 47 | | 1,477 47 |
| Rivière Peribonka (see Peribonka). | | | | | |
| Rivière Richelieu, dam | | 503 90 | | | 503 90 |
| Rivière Richelieu, improvements | 275 70 | | | | 275 70 |
| Rivière Saguenay | 76,184 78 | 673 67 | | | 76,858 45 |
| Rivière Saguenay, Valin Ranges | 428 12 | | | | 428 12 |
| Rivière St. Francois | 22,369 89 | | | | 22,369 89 |
| Rivière St. Lawrence, protection wall at Laprairie (see Laprairie). | | | | | |
| Rivière St. Louis, improvements | 7,336 99 | | | | 7,336 99 |
| Rivière St. Louis at St. Paulin | 2,839 08 | | | | 2,839 08 |
| Rivière St. Maurice, eastern channel | 15,444 82 | | | | 15,444 82 |
| Rivière St. Maurice, Grandes Piles to la Tuque | 7,874 72 | | | | 7,874 72 |
| Roberval (Lake St. John), wharf | 1,940 46 | | 1,492 26 | | 3,432 72 |
| Ruisseau à Loutre, harbour improvements | | 1,239 30 | | | 1,239 30 |
| Ste. Adelaide de Pabos, breakwater extension | | 171 28 | | | 171 28 |
| St. Alexis, Ha Ha bay wharf | 811 12 | 1,730 78 | 388 14 | | 2,930 04 |
| St. Alphonse de Bagotville, wharf | | 876 44 | | | 876 44 |
| St. André de Kamouraska, wharf | | 433 10 | | | 433 10 |
| St. Andrews, wharf on North River | | 413 35 | | | 413 35 |
| St. Anicet, wharf | | 1,197 72 | | | 1,197 72 |
| Ste. Anne de Bellevue | 225 36 | | | | 225 36 |
| Ste. Anne de la Pocatière wharf | | 747 90 | | | 747 90 |
| Ste. Anne de Chicoutimi wharf | | | 268 69 | | 268 69 |
| Ste. Anne des Monts, deep water wharf | | 50 42 | | | 50 42 |
| Ste. Anne des Monts, harbour improvements | | 4,447 37 | | | 4,447 37 |
| St. Antoine de Richelieu, wharf | 1,511 63 | 1,424 95 | | | 2,936 58 |
| St. Barthelemy | 685 00 | | | | 685 00 |
| St. Charles de Caplan, wharf | | 359 90 | | | 359 90 |
| St. Charles de Richelieu, storehouse | | 27 03 | | | 27 03 |
| Ste. Clothilde de Chateauguay (Grand Marsh) | | 4,470 29 | | | 4,470 29 |
| Ste. Croix, wharf | | 15,819 66 | | | 15,819 66 |
| St. Denis wharf (Riv. Richelieu) | | | 192 30 | | 192 30 |
| Ste. Emélie (Leclercville), pier | | 24 40 | | | 24 40 |
| Ste. Famille d'Orléans, wharf | | 7,000 53 | | | 7,000 53 |
| St. Félicien, Ashuapmouchouan Riv | 375 00 | | | | 375 00 |
| Ste. Félicité, wharf | | 1,604 96 | | | 1,604 96 |
| St. Francois d'Orléans (north), wharf | | | 2,780 90 | | 2,780 90 |
| St. Francois d'Orléans (south), wharf | | | 587 46 | | 587 46 |
| St. Francois du Lac, wharf | | | 136 54 | | 136 54 |
| St. Fulgence, wharf | 2,289 95 | | 29 00 | | 2,318 95 |
| Ste. Geneviève de Batiscan, wharf | | 244 95 | | | 244 95 |
| St. Georges de Malbaie, breakwater | | 1,386 66 | | | 1,386 66 |
| St. Germain de Kamouraska, wharf | | 200 00 | | | 200 00 |
| St. Godefroy wharf (Bonaventure) | | | 135 37 | | 135 37 |
| St. Hilaire (Riv. Richelieu), wharf | 752 34 | | | | 752 34 |
| St. Irénée-les-Bains, wharf | | | 2,033 30 | | 2,033 30 |
| St. Jean des Chaillons, wharf | | 2,080 48 | | | 2,080 48 |
| St. Jean d'Orléans, wharf | | | 444 51 | | 444 51 |
| St. Jean Port-Joli, wharf | | 39 85 | | | 39 85 |
| St. Jérome, wharf | | | 2,289 43 | | 2,289 43 |
| St. Joseph de Letellier, wharf | | 12,250 50 | | | 12,250 50 |
| St. Joseph de Lévis, Government wharf | | | 9 00 | | 9 00 |
| St. Lambert | 1,553 51 | | | | 1,553 51 |

PART II—STATEMENT A—EXPENDITURE—*Continued.*

| Name of Work. | Dredging. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total. |
|---|---|---|---|---|---|
| HARBOURS AND RIVERS. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| *Quebec*—Concluded. | | | | | |
| St. Laurent d'Orléans, wharf | | | 681 74 | 70 00 | 751 74 |
| St. Louis de Gonzague | 1,383 94 | | | | 1,383 94 |
| Ste. Luce, wharf | 599 97 | 12,332 46 | | | 12,932 43 |
| St. Marjorique, wharf approach | | 4,921 05 | | | 4,921 05 |
| St. Marc, repairs to wharf and ice breaker | 344 83 | | 248 30 | | 593 13 |
| St. Michel de Bellechasse, wharf | | | 688 68 | | 688 68 |
| St. Nicolas, wharf | | | 289 05 | | 289 05 |
| St. Ours (Richelieu), wharf | | 539 56 | | | 539 56 |
| St. Peter's channel | 4,914 04 | | | | 4,914 04 |
| St. Pierre les Becquets wharf | | 1,387 63 | | | 1,387 63 |
| St. Romuald, wharf | | 434 90 | | | 434 90 |
| St. Siméon, wharf | | | 2,828 32 | | 2,828 32 |
| St. Valier, wharf extension | | 10,810 00 | | | 10,810 00 |
| Ste. Victoire, wharf | | 1,426 88 | | | 1,426 88 |
| Sabrevois wharf repairs | | | 1,368 02 | | 1,368 02 |
| Sault Montmorency, protection work | | 5,115 69 | | | 5,115 69 |
| Shigawake, breakwater wharf | | 499 85 | | | 499 85 |
| Sorel breakwater (Elizabeth st.) | | | 240 00 | | 240 00 |
| Sorel deep water wharf | | 5,125 40 | | | 5,125 40 |
| Sorel, to purchase new wharf | | 15,000 00 | | | 15,000 00 |
| Squateck, wharf addition | | 2,336 95 | | | 2,336 95 |
| Stratford Centre (Lake Aylmer), wharf | | | 30 65 | | 30 65 |
| Tadousac, wharf approach | | 11,501 25 | | | 11,501 25 |
| Three Lakes, wharf | | | 596 81 | | 596 81 |
| Three Rivers, deep water wharf | 4,048 78 | 58,050 02 | | | 62,098 80 |
| Trois Pistoles harbour pier | | 6,010 00 | | | 6,010 00 |
| " ice breaker | | | 3,999 97 | | 3,999 97 |
| Valleyfield wharf | | 3,195 71 | | | 3,195 71 |
| Varennes | 7,265 42 | | | | 7,265 42 |
| Vaudreuil, wharf shed | | 274 66 | | | 274 66 |
| Verchères wharf, shed | 4,639 35 | 2,088 81 | 469 41 | | 7,197 57 |
| Verdun wharf | | 3,280 56 | | | 3,280 56 |
| Ville Marie, wharf (Timiscamingue) | | 420 53 | 220 60 | | 641 13 |
| White Head (see Percé). | | | | | |
| Woburn wharf | | | 422 60 | | 422 60 |
| Woodlands wharf | 10,390 57 | | | | 10,390 57 |
| Yamachiche, construction of fence | | 137 33 | | | 137 33 |
| Yamaska | 3,225 00 | | | | 3,225 00 |
| Yamaska, lock and dam | | | 4,110 16 | 1,611 35 | 5,721 51 |
| Generally | 113,707 67 | | | 32,009 43 | 145,717 10 |
| Totals, Quebec | 647,231 32 | 651,972 19 | 78,304 81 | 54,043 63 | 1,431,551 95 |
| *Ontario.* | | | | | |
| Arnprior, wharf | | | 24 30 | | 24 30 |
| Bare Point (Port Arthur) breakwater | | 198,660 20 | | | 198,660 20 |
| Bayfield, piers | | | 144 56 | | 144 56 |
| Baysville, wharf | | 40 00 | | | 40 00 |
| Beaumarais, wharf | | 14,287 28 | | | 14,287 28 |
| Beaverton harbour, improvements | | 2,812 54 | | | 2,812 54 |
| Belle Ewart, wharf | | 82 63 | | | 82 63 |
| Belle River Harbour | 5,318 14 | | 268 00 | | 5,586 14 |
| Belleville Harbour | | 26 72 | | | 26 72 |
| Big Bay, wharf | | | 2,113 46 | | 2,113 46 |
| Big Bay Point, wharf | | 154 56 | | | 154 56 |
| Blanche River | | | | 42 48 | 42 48 |
| Blind River, dock | 8,355 79 | | 952 19 | | 9,307 98 |
| Brighton, wharf | | 80 89 | | | 80 89 |
| Britannia (Lake Deschenes) | 396 70 | | | | 396 70 |
| Brockville, Tunnel Bay dock | 162 00 | 17,235 78 | | | 17,397 78 |
| Bronte wharf | | | 873 07 | | 873 07 |
| Burlington Channel | | 245 58 | | 3,161 49 | 3,407 07 |

PART II—STATEMENT A—EXPENDITURE—*Continued.*

| Name of Work. | Dredging. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total. |
|---|---|---|---|---|---|
| HARBOURS AND RIVERS. *Ontario*—Continued. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| Byng Inlet | 21,246 30 | | | | 21,246 30 |
| Cache Bay (Lake Nipissing) wharf | | 2,173 34 | | | 2,173 34 |
| Callendar, wharf | | | 80,95 | | 80 95 |
| Charlton. wharf | | | 288 79 | | 288 79 |
| Clairmont Ferry, see South Nation Riv. | | | | | |
| Cobourg Harbour— | | | | | |
| East pier | 611 84 | 8,432 62 | | 105 65 | 9,150 11 |
| Extension of west pier | | 1,060 27 | | | 1,060 27 |
| Colchester, wharf extension | | 5,574 75 | | | 5,574 75 |
| Colborne, wharf | | | 250 00 | | 250 00 |
| Collingwood Harbour | 2,358 46 | 552 75 | 849 04 | | 3,760 25 |
| graving dock, No. 1 | | | | 15,000 00 | 15,000 00 |
| " " No. 2 | | | | 18,417 92 | 18,417 92 |
| Colpoy's Bay, wharf | | | 32 07 | | 32 07 |
| Courtright (St. Clair river) | 340 34 | | | | 340 34 |
| Cumberland, wharf | | | 385 26 | | 385 26 |
| Dawson Point, wharf (Lake Timiskaming) | | 797 99 | | | 797 99 |
| Deseronto | 14,773 74 | | | | 14,773 74 |
| Detroit River, protection of east bank in township of Malden | | 2,500 20 | | | 2,500 20 |
| Dryden wharf (warehouse) | | 967 68 | | | 967 68 |
| Echo Bay | 10,462 52 | | | | 10,462 52 |
| Fort William Harbour improvements | 672,386 92 | 183,845 15 | | | 856,232 07 |
| French River, (see Lake Nipissing.) | | | | | |
| Gananoque | 8,695 24 | | | | 8,695 24 |
| Gawas Channel (Algoma) | 582 88 | | | | 582 88 |
| Goderich Harbour improvements— | 25,656 39 | | | | 25,656 39 |
| Northwest breakwater | | 43,340 00 | | | 43,340 00 |
| South breakwater | | 80,770 00 | | | 80,770 00 |
| Commercial dock | | 34,137 90 | | | 34,137 90 |
| River breakwater | | 13,930 00 | | | 13,930 00 |
| Repairs to piers | | | 2,089 20 | | 2,089 20 |
| Grand Bend, guard-pier | | 5,000 36 | | | 5,000 36 |
| Gravenhurst (Lake Muskoka) wharf | | 8,235 31 | | | 8,235 31 |
| Haileybury Harbour improvements (Lake Timiskamimg) | 2,097 33 | 7,644 39 | | | 9,741 72 |
| Hamilton Harbour improvements | 13,094 34 | 46,192 14 | | | 59,286 48 |
| Honey Harbour | 4,658 94 | | | | 4,658 94 |
| Huntsville, wharf extension | | 1,323 78 | | | 1,323 78 |
| Jeannette's Creek | 287 43 | | | | 287 43 |
| Kempenfeldt Bay, wharf | | 5,017 76 | | | 5,017 76 |
| Kenora, (see also Millar's Rapids) | | 9,731 44 | | | 9,731 44 |
| Kincardine Harbour | 5,027 43 | | | | 5,027 43 |
| " piers | | | 998 07 | | 998 07 |
| Kingston Harbour improvements | | 19,621 56 | | | 19,621 56 |
| " R.M.C., renewing wharfs | | 15,760 07 | | | 15,760 07 |
| Kingsville Harbour | 10,681 21 | | 440 00 | | 11,121 21 |
| Lake Nipissing, Shanty Island, Monetville | | 1,680 32 | | | 1,680 32 |
| Lake Nipissing—French River, regulating works at outlet | | 4,327 08 | | | 4,327 08 |
| Lakeport, reconstruction of wharf | | 1,510 00 | | | 1,510 00 |
| Lansdowne wharf | | | 40 00 | | 40 00 |
| La Passe Ferry, wharf | | 1,207 78 | | | 1,207 78 |
| Leamington, wharf | | | 1,009 90 | | 1,009 90 |
| Lion's Head, wharf | | 6,073 02 | | | 6,073 02 |
| Long Point, near St. Williams, wharf | | 2,510 62 | | | 2,510 62 |
| L'Orignal (Ottawa River) wharf | | | 499 50 | | 499 50 |
| Magnetawan, removal of boulders | | 915 74 | | | 915 74 |
| Mallorytown, wharf | | | 20 00 | | 20 00 |
| Meaford Harbour improvements | 4,649 91 | 30,461 18 | | | 35,111 09 |
| Midland Harbour improvements (Tiffin) | 119,260 89 | | 1,355 21 | | 120,616 10 |
| Millar's Rapids at Kenora | 5,266 24 | | | | 5,266 24 |

PART II—STATEMENT A—EXPENDITURE—*Continued.*

| Name of Work. | Dredging. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total. |
|---|---|---|---|---|---|
| HARBOURS AND RIVERS. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| *Ontario*—Continued. | | | | | |
| Montreal River (Latchford Dam) | | 50,010 63 | | | 50,010 63 |
| Montreal River (Flat Rapids) | | 3,419 24 | | | 3,419 24 |
| Napanee | 17,458 23 | | | | 17,458 23 |
| Newcastle | 1,098 41 | | | | 1,098 41 |
| New Liskeard, harbour improvements | 1,072 50 | 2,030 46 | 58 34 | | 3,161 30 |
| North Bay, breakwater | 713 00 | 9,010 68 | | | 9,723 68 |
| Orillia, wharf | | 4,088 93 | | | 4,088 93 |
| Ottawa River—Victoria Island shipyard | 466 79 | | | | 466 79 |
| Owen Sound | 1,687 37 | 11,707 26 | 2,524 79 | | 15,919 42 |
| Parry Sound | 2,207 79 | 7,539 82 | | | 9,747 61 |
| Pelee Island, western dock | | | 145 34 | | 145 34 |
| Pembroke, wharf | | | 1,356 04 | | 1,356 04 |
| Penetanguishene, wharf | 1,170 81 | | 1,354 34 | | 2,525 15 |
| Peterboro' wharf | | 16,725 70 | | | 16,725 70 |
| Petewawa, wharf | | 1,601 99 | | | 1,601 99 |
| Picnic Islands, improvements (Georgian Bay) | 99,999 10 | | | | 99,999 10 |
| Picton Harbour | 5,965 48 | | | | 5,965 48 |
| Pickering | 1,880 44 | | | | 1,880 44 |
| Point Edward | 593 50 | | | | 593 50 |
| Porcupine, wharf | | 2,188 09 | | | 2,188 09 |
| Port Arthur Harbour improvements | 133,467 33 | 10,044 21 | | | 143,511 54 |
| Port Bruce, piers | 1,237 99 | 1,798 87 | | | 3,036 86 |
| Port Burwell Harbour | 1,109 72 | 61,134 00 | 4,170 88 | | 66,414 60 |
| Port Colborne, eastern breakwater | | 4,755 77 | | | 4,755 77 |
| Port Credit, wharf | | | 14 00 | | 14 00 |
| Port Findlay, wharf | | 6,604 68 | | | 6,604 68 |
| Port Hope Harbour | 28,493 60 | 8,999 98 | | | 37,493 58 |
| Port McNicol (see Victoria Harbour). | | | | | |
| Port Rowan, pier | | 4,089 48 | | | 4,089 48 |
| Port Stanley Harbour | 5,035 59 | 59,643 60 | 8,861 54 | | 73,540 73 |
| Providence Bay, wharf extension | | 199 04 | | | 199 04 |
| Rainy River (mouth) | 33,066 61 | | | | 33,066 61 |
| Red Bay, wharf | | 2,106 91 | | | 2,106 91 |
| Richard's Landing, wharf | | | 996 22 | | 996 22 |
| River St. Lawrence, between Kingston and Brockville | 30,315 17 | | | | 30,315 17 |
| River Thames, between Chatham and mouth | 4,486 72 | | | | 4,486 72 |
| Robin's Landing, wharf | | | 25 00 | | 25 00 |
| Rondeau Harbour, improvements | | | 2,498 72 | | 2,498 72 |
| Rosseau, wharf | | | 165 00 | | 165 00 |
| St. Joseph Island Wharfs— | | | | | |
| 'C' line 896 64 | | | | | |
| 'K' line 2,518 22 | | | | | |
| 'P' line 2,353 82 | | | | | |
| | | 5,768 68 | | | 5,768 68 |
| Sarnia Bay, improvements | 747 50 | 700 09 | | | 1,447 59 |
| Saugeen River, landing docks | | | 1,287 56 | | 1,287 56 |
| Sault Ste. Marie Harbour improvements | 134,897 06 | | | | 134,897 06 |
| " old Plummer wharf | | 13,196 71 | | | 13,196 71 |
| Sea Gull, wharf | | 1,512 77 | | | 1,512 77 |
| Severn River (Lake Couchiching) dams | | | 31 35 | 25 00 | 56 35 |
| Severn Bridge, wharf | | 1,844 78 | | | 1,844 78 |
| Sheguindah (Manitoulin Island) wharf | | 3,996 22 | | | 3,996 22 |
| Silver Centre (Lake Timiskaming) wharf | | 2,580 60 | | | 2,580 60 |
| Smyth Wharf (Elk Lake) | | | 297 76 | | 297 76 |
| Southampton Harbour, improvements | | 1,749 42 | | | 1,749 42 |
| South Lancaster, wharf | 6,968 19 | | 27 00 | | 6,995 19 |
| South Nation River at Clairmont Ferry | 1,894 30 | | | | 1,894 30 |
| South Porcupine, wharf | | 1,341 91 | | | 1,341 91 |
| South River, Lake Nipissing | 1,411 58 | | | | 1,411 58 |
| Spragge (Algoma) | 3,020 49 | | | | 3,020 49 |

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PART II—STATEMENT A—EXPENDITURE—*Continued.*

| Name of Work. | Dredging. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total. |
|---|---|---|---|---|---|
| HARBOURS AND RIVERS. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| *Ontario*—Concluded. | | | | | |
| Sturgeon Falls, completion of dock | | 534 98 | | | 534 98 |
| Sturgeon River (mouth) | 1,865 83 | | | | 1,865 83 |
| Summerstown, wharf | 1,651 05 | | 199 96 | | 1,851 01 |
| Sundridge, wharf | | 2,480 20 | | | 2,480 20 |
| Sydenham River | 933 50 | | | | 933 50 |
| " (see Wallaceburg). | | | | | |
| Telegraph and Nigger Islands (Bay of Quinte) | 38,361 40 | | | | 38,361 40 |
| Thessalon Harbour, breakwater | | 10,034 47 | | | 10,034 47 |
| Thornbury Harbour, improvements | 951 00 | 9,122 64 | 139 00 | | 10,212 64 |
| Tiffin, (see Midland.) | | | | | |
| Tobermory, glance booms | | | 77 25 | | 77 25 |
| Toronto Harbour, improvements— | | | | | |
| Eastern entrance | 21,470 45 | | 15,049 49 | | 36,519 94 |
| Hanlan's Point | 9,399 16 | | | | 9,399 16 |
| Island breakwater | | 13,371 06 | | | 13,371 06 |
| New western entrance | | 48,334 51 | | | 48,334 51 |
| Queen's wharf | | | | 25 00 | 25 00 |
| Trenton | 6,955 74 | | | | 6,955 74 |
| Two Creeks Harbour, (see Wheatley.) | | | | | |
| Two and Seven Mile Narrows (Georgian Bay) glance booms | | 1,042 90 | | | 1,042 90 |
| Victoria Harbour (Port McNicol) improvements | 170,173 84 | | | | 170,173 84 |
| Victoria Island Shipyard (see Ottawa river). | | | | | |
| Wallaceburg (Sydenham river) | 965 32 | | | | 965 32 |
| Wendover, wharf | | | 434 58 | | 434 58 |
| Wheatley, breakwater (Two creeks) | | 36,477 31 | | | 36,477 31 |
| Whitby Harbour, improvements | | 389 82 | | | 389 82 |
| Windermere, wharf | | 4,891 41 | | | 4,891 41 |
| Windsor, landing-dock | 579 90 | 5,908 69 | | | 6,488 59 |
| Generally | 95,302 63 | | | 19,598 78 | 114,901 41 |
| Totals, Ontario | 1,805,446 07 | 1,211,899 89 | 52,427 73 | 56,376 32 | 3,126,150 01 |
| *Manitoba.* | | | | | |
| Delta protection works | | 6,363 56 | | | 6,363 56 |
| Gimli Harbour, wharf | 1,256 44 | 6,057 25 | | | 7,313 69 |
| Lister's Rapids (Red river) | 2,983 69 | | | | 2,983 69 |
| Lockport | 7,006 20 | | | | 7,006 20 |
| Mossy River (Lake Dauphin) | 2,414 09 | | | | 2,414 09 |
| Pelican Lake, wharf | | 3,492 12 | | | 3,492 12 |
| Red River Improvements | 46,251 38 | | | | 46,251 38 |
| " St. Andrews lock and dam | | 36,904 62 | | 15,007 50 | 51,912 12 |
| " St. Andrews lock and dam, raising road, etc | | 999 88 | | | 999 88 |
| " St. Andrews lock and dam, fishway | | 58 74 | | | 58 74 |
| Selkirk, wharf | 1,760 80 | | | | 1,760 80 |
| Sugar Point (Red river) | 2,592 48 | | | | 2,592 48 |
| Victoria Beach Bay, breakwater-wharf | | 12,034 99 | | | 12,034 99 |
| Willow Point (Selkirk Co.) | 511 44 | | | | 511 44 |
| Winnipeg Beach Harbour, breakwater | 644 31 | | | | 644 31 |
| Generally | 7,252 11 | | | 6,896 37 | 14,148 48 |
| Totals, Manitoba | 72,672 94 | 65,911 16 | | 21,903 87 | 160,487 97 |

PART II—STATEMENT A—EXPENDITURE—*Continued.*

| Name of Work. | Dredging. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total. |
|---|---|---|---|---|---|
| HARBOURS AND RIVERS. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| *Saskatchewan and Alberta.* | | | | | |
| Athabaska River, removal of boulders. | | 7,265 43 | | | 7,265 43 |
| Edmonton, wharf | | 9,660 10 | | | 9,660 10 |
| Last Mountain Lake (Craven dam) | 5,647 58 | 5,832 35 | 671 26 | | 12,151 19 |
| Lesser Slave River at Grouard | 5,179 13 | | | | 5,179 13 |
| Saskatchewan River, improvements | | 28,271 70 | | | 28,271 70 |
| Prince Albert, wharf | | 10,139 54 | | | 10,139 54 |
| Generally | | | | 2,046 86 | 2,046 86 |
| Totals, Saskatchewan and Alberta | 10,826 71 | 61,169 12 | 671 26 | 2,046 86 | 74,713 95 |
| *British Columbia.* | | | | | |
| Alberni, wharf | | 2,615 09 | | | 2,615 09 |
| Alice Arm (Observatory inlet) wharf | | 4,095 06 | | | 4,095 06 |
| Bamfield, wharf | | | 739 30 | | 739 30 |
| Boswell, wharf | | 7,742 75 | | | 7,742 75 |
| Campbell River, wharf | | 2,943 12 | | | 2,943 12 |
| Celesta, wharf | | 2,975 31 | | | 2,975 31 |
| Columbia River, improvements— | | | | | |
| Between Upper and Lower Arrow Lakes | 17,532 21 | | | | 17,532 21 |
| Between Golden and Windermere | 7,408 18 | | | | 7,408 18 |
| Protection at Revelstoke | | 10,056 79 | | | 10,056 79 |
| Columbia and Kootenay Rivers, wharfs— | | | | | |
| Burton City | 2,418 95 | | | | |
| Deer Park | 6,466 99 | | | | |
| Mirror Lake | 6,081 12 | | | | |
| Revelstoke | 11,182 06 | | | | |
| Shutty Bench | 5,400 00 | | | | |
| Wilmer | 933 00 | | | | |
| | | 32,482 12 | | | 32,482 12 |
| Columbia River survey | | 11,023 81 | | | 11,023 81 |
| Comaplix, wharf | | 7,101 62 | | | 7,101 62 |
| Coquitlam River, removal of obstructions | | 1,000 96 | | | 1,000 96 |
| Esquimalt graving dock | | | | 15,306 20 | 15,306 20 |
| Fraser and Thompson Rivers, wharfs— | | | | | |
| Gordon road | 1,530 75 | | | | |
| Green's landing | 2,385 70 | | | | |
| Kamloops | 3,576 24 | | | | |
| Ladner | 2,303 42 | | | | |
| McIvor's landing | 1,863 45 | | | | |
| Murphy's landing | 2,264 00 | | | | |
| Sicamous | 3,680 24 | | | | |
| Generally | 3,102 60 | | | | |
| | | 17,603 80 | 3,102 60 | | 20,706 40 |
| Fraser River | 78,228 62 | | | | 78,228 62 |
| " dams at Nicomen slough | | 4,293 11 | | | 4,293 11 |
| " (lower) wing dams, etc | 15,728 85 | 17,249 26 | | | 32,978 11 |
| " training pier | | 76,197 03 | | | 76,197 03 |
| Golden, wharf | | 3,637 81 | | | 3,637 81 |
| Goose Bay (Observatory inlet), wharf | | 3,411 04 | | | 3,411 04 |
| Gowland Harbour, wharf | | 1,995 00 | | | 1,995 00 |
| Hardy Bay, wharf | | | 1,483 00 | | 1,483 00 |
| Harrison River, wing dams | | 7,226 05 | | | 7,226 05 |
| Harrop, wharf | | 1,689 15 | | | 1,689 15 |
| Holberg (Vancouver island), wharf | | 1,489 61 | | | 1,489 61 |
| Holleyburn (North Vancouver), wharf | | 6,000 00 | | | 6,000 00 |
| Kaslo, wharf | | 20 27 | | | 20 27 |
| Kennedy Lake, at outlet | | 1,484 50 | | | 1,484 50 |
| Kincolith, wharf | | 3,497 46 | | | 3,497 46 |
| Kootenay Lake | 14,845 58 | | | | 14,845 58 |
| Ladysmith, wharf | | | 1,158 59 | | 1,158 59 |
| Massett (Queen Charlotte islands), wharf | | 1,197 35 | | | 1,197 35 |
| " (White Settlement), wharf | | 206 04 | | | 206 04 |

PART II—STATEMENT A—EXPENDITURE—*Continued.*

| Name of Work. | Dredging. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total. |
|---|---|---|---|---|---|
| HARBOURS AND RIVERS. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| *British Columbia*—Concluded. | | | | | |
| Metchosin, wharf | | 5,431 42 | | | 5,431 42 |
| Mill Bay, wharf | | 2,615 88 | | | 2,615 88 |
| Nanaimo Harbour | 9,282 78 | 1,501 89 | | | 10,784 67 |
| Naas River | 5,356 00 | 1,993 91 | | | 7,349 91 |
| Needles, wharf | | 101 92 | | | 101 92 |
| Okanagan River | 8,455 58 | 4,269 71 | | | 12,725 29 |
| Porcher Island, wharf | | 3,490 06 | | | 3,490 06 |
| Port Moody, wharf extension | | 9,014 42 | | | 9,014 42 |
| Prince Rupert, quarantine wharf | | 49,162 37 | | | 49,162 37 |
| Refuge Bay, wharf | | 4,592 66 | | | 4,592 66 |
| St. James Island, wharf | | 2,154 68 | | | 2,154 68 |
| Sand Spit Point, wharf | | 249 87 | | | 249 87 |
| Savary Island, wharf | | 4,980 00 | | | 4,980 00 |
| Shushartie Bay, wharf | | 3,964 00 | | | 3,964 00 |
| Sidney Island, wharf | | | 1,842 67 | | 1,842 67 |
| Skeena River | 10,808 45 | | | | 10,808 45 |
| Stewart (Head, Portland Canal), wharf | | 7,929 77 | | | 7,929 77 |
| Sunshine Bay, wharf | | 4,974 92 | | | 4,974 92 |
| Thompson River, improvements | 10,127 98 | 821 09 | | | 10,949 07 |
| Tucker Bay, wharf | | 3,969 85 | | | 3,969 85 |
| Union Bay, wharf | | 689 92 | | | 689 92 |
| Upper Fraser River | 9,149 90 | | | | 9,149 90 |
| Williams Head, quarantine station | | 7,292 53 | | | 7,292 53 |
| Willow Point (Lake Kootenay), wharf | | 227 50 | | | 227 50 |
| Wooden River, removal of obstructions | | 849 65 | | | 849 65 |
| Vancouver Harbour | 593,596 86 | | | | 593,596 86 |
| Victoria Harbour | 94,076 97 | 14,919 24 | | | 108,996 21 |
| Generally | 18,543 27 | | | 9,135 68 | 27,678 95 |
| Totals, British Columbia | 893,141 23 | 364,431 37 | 8,326 16 | 24,441 88 | 1,290,340 64 |
| *Yukon Territory.* | | | | | |
| Lewes and Yukon Rivers, improvements | | 4,155 12 | | | 4,155 12 |
| Totals, Yukon Territory | | 4,155 12 | | | 4,155 12 |
| *Harbours and Rivers Generally.* | | | | | |
| General expenses of staff, etc | 6,949 12 | | | 14,356 66 | 21,305 78 |
| Salaries of district engineers, assistants, etc | | | | 289,825 39 | 289,825 39 |
| Totals, Harbours and Rivers Generally | 6,949 12 | | | 304,182 05 | 311,131 17 |
| *Dredges and Dredging Plant.* | | | | | |
| Maritime Provinces | | 199,519 05 | 6,703 76 | | 206,222 81 |
| Ontario and Quebec | | 75,560 63 | 107,313 98 | | 182,874 61 |
| " Victoria Island shipyard | | 58,524 68 | | | 58,524 68 |
| Manitoba, Saskatchewan and Alberta | | 16,397 01 | 4,941 26 | | 21,338 27 |
| British Columbia | | 108,797 16 | 99,992 63 | | 208,789 79 |
| Totals, Dredges and dredging plant | | 458,798 53 | 218,951 63 | | 677,750 16 |

PART II—STATEMENT A—EXPENDITURE—*Continued.*

| Name of Work. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total |
|---|---|---|---|---|
| | $ cts. | $ cts. | $ cts. | $ cts. |
| SLIDES AND BOOMS. | | | | |
| Richelieu River (Beloeil) | | | 110 00 | 110 00 |
| River Saguenay | 5,511 88 | 1,176 17 | 4,248 94 | 10,936 99 |
| River St. Maurice | 7,355 96 | 5,383 69 | 61,458 84 | 74,198 49 |
| Ottawa District— | | | | |
| Black River | | 1,038 82 | | 1,038 82 |
| Coulonge River | | 513 50 | | 513 50 |
| Gatineau River | | 75 26 | | 75 26 |
| Madawaska River | | 275 14 | | 275 14 |
| Ottawa River | | 2,053 79 | 26,895 82 | 28,949 61 |
| Petewawa River | | 1,311 55 | | 1,311 55 |
| River du Lievre | 660 00 | | 10 50 | 670 50 |
| Newcastle District | | 986 30 | 164 85 | 1,151 15 |
| North Saskatchewan River, Goose Encampment | 1,252 88 | | | 1,252 88 |
| Collection of Slide and Boom dues | | | 3,735 74 | 3,735 74 |
| Totals, Slides and Booms | 14,780 72 | 12,814 22 | 96,624 69 | 124,219 63 |
| ROADS AND BRIDGES. | | | | |
| *Maritime Provinces.* | | | | |
| International bridge, St. Leonard-Van Buren | 8 00 | | | 8 00 |
| Interprovincial bridge, Metapedia | 783 49 | | | 783 49 |
| *Quebec and Ontario.* | | | | |
| Interprovincial bridge, Hawkesbury | 87 15 | | | 87 15 |
| Bryson bridge | 3,200 00 | 550 55 | | 3,750 55 |
| Chapeau bridge (new) | 24,043 50 | | | 24,043 50 |
| Portage du Fort bridge | 3,000 00 | 651 99 | | 3,651 99 |
| *Ottawa City Bridges and Streets maintained by Government.* | | | | |
| Chaudière bridge and approaches | 2,400 00 | 4,455 23 | | 6,855 23 |
| Connaught Place and Wellington street | 97,973 94 | | 8,583 34 | 106,557 28 |
| Lighting all above, Ottawa bridges and streets maintained by Government | | | 2,011 23 | 2,011 23 |
| York bridge (Grand River) | | 524 49 | | 524 49 |
| *Saskatchewan, Alberta and British Columbia.* | | | | |
| Edmonton bridge | | 3,973 94 | | 3,973 94 |
| Bow and Spray River bridges at Banff | | 334 19 | | 334 19 |
| Totals, Roads and Bridges | 131,496 08 | 10,490 39 | 10,594 57 | 152,581 04 |
| TELEGRAPH LINES. | | | | |
| *Newfoundland.* | | | | |
| Cape Ray (subsidy) | | | 250 00 | 250 00 |
| *Maritime Provinces.* | | | | |
| Bay of Fundy | | | 2,296 56 | 2,296 56 |
| Cape Breton | 9,785 42 | | 22,245 03 | 32,030 45 |
| Cape Negro | 2,760 00 | | | 2,760 00 |
| Escuminac | 535 12 | | 1,820 50 | 2,355 62 |
| Prince Edward Island and Mainland Cable | | 2,323 09 | | 2,323 09 |
| Seal Island | 10,394 50 | | | 10,394 50 |

PART II—STATEMENT A—EXPENDITURE—*Continued.*

| Name of Work. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total. |
|---|---|---|---|---|
| TELEGRAPH LINES. | $ cts. | $ cts. | $ cts. | $ cts. |
| *Quebec (Mainland).* | | | | |
| Charlesbourg-Martineau Mills | 2,702 87 | | | 2,702 87 |
| Father Point (subsidy) | | | 500 00 | 500 00 |
| Laval-Beauport | | | 357 32 | 357 32 |
| North Shore, east of Bersimis | 1,001 57 | | 27,670 33 | 28,671 90 |
| North Shore, west of Bersimis | 806 21 | | 14,538 79 | 15,345 00 |
| Timiskaming line | 1,498 18 | | 2,195 64 | 3,693 82 |
| *Quebec Islands.* | | | | |
| Anticosti | | | 6,237 92 | 6,237 92 |
| Grosse Isle Quarantine system | | | 6,024 27 | 6,024 27 |
| Isle aux Coudres | | | 750 00 | 750 00 |
| Magdalen Islands | | | 4,512 78 | 4,512 78 |
| Cable Ship 'Tyrian' | 27,167 63 | | 50,569 26 | 77,736 89 |
| Maritime Provinces and Gulf Generally | | | 4,966 17 | 4,966 17 |
| ONTARIO. | | | | |
| Pelee Island | | | 394 18 | 394 18 |
| *Saskatchewan and Alberta.* | | | | |
| Qu'Appelle-Edmonton-Athabasca system | 53,613 53 | | 67,983 24 | 121,596 77 |
| *British Columbia and Yukon (Mainland).* | | | | |
| Ashcroft-Dawson system | 79,352 29 | | 213,082 34 | 292,434 63 |
| Edgewood-Nakusp | 5,879 12 | | | 5,879 12 |
| Golden-Windermere | 817 25 | | 4,525 28 | 5,342 53 |
| Kamloops-Okanagan | 16,804 52 | | 19,314 26 | 36,118 78 |
| Powell River-Vancouver | 24,985 34 | | | 24,985 34 |
| Vancouver Islands lines | 10,302 44 | | 33,458 63 | 43,761 07 |
| British Columbia Generally | | | 5,695 99 | 5,695 99 |
| Telegraph Service Generally | | | 2,162 31 | 2,162 31 |
| Totals, Telegraphs | 248,405 99 | 2,323 09 | 491,550 80 | 742,279 88 |
| MISCELLANEOUS. | | | | |
| Surveys— | | | | |
| Maritime Provinces | | | 31,010 09 | |
| Quebec | | | 32,690 17 | |
| Ontario | | | 52,037 11 | |
| Manitoba | | | 5,152 69 | |
| Saskatchewan and Alberta | | | 2,540 64 | |
| British Columbia | | | 7,204 88 | |
| Georgian Bay | | | 4,943 00 | |
| Generally | | | 3,376 38 | 138,954 96 |
| Upper Ottawa Storage Dams— | | | | |
| Gordon Creek | 18,210 72 | | | 18,210 72 |
| Kippawa dam | 4,463 64 | | | 4,463 64 |
| Quinze dam | 56,788 43 | | | 56,788 43 |
| Quinze dam land damages | 23,502 47 | | | 23,502 47 |
| Timiskaming dam | 124,592 90 | | | 124,592 90 |
| Generally | 7,440 88 | | | 7,440 88 |
| Upper Ottawa River investigation | 28,336 91 | | | 28,336 91 |
| Dry Docks Generally-Preparing plans, etc., regarding proposed new docks | 9,478 71 | | | 9,478 71 |
| River gaugings | | | 4,227 65 | 4,227 65 |
| Lake levels *re* diversion of water from Lake Michigan through Chicago main drainage channel | | | 1,777 95 | 1,777 95 |
| International Waterways Commission | | | 31,770 57 | 31,770 57 |

PART II—STATEMENT A—EXPENDITURE—*Continued.*

| Name of Work. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total. |
|---|---|---|---|---|
| MISCELLANEOUS. | $ cts | $ cts | $ cts. | $ cts. |
| International Commission, River St. John, N.B | | | 16,121 77 | 16,121 77 |
| Investigation under Enquiries Act | | | 2,808 83 | 2,808 83 |
| River St. Lawrence Commission | | | 10,313 18 | 10,313 18 |
| Monument to His Majesty the late King Edward VII. | 1,202 36 | | | 1,202 36 |
| Monument to the memory of the late George Brown. | 7,750 00 | | | 7,750 00 |
| Monument to the memory of the late Thos. D'Arcy McGee | 2,250 00 | | | 2,250 00 |
| Monument to Madeleine de Verchères | 10,139 60 | | | 10,139 60 |
| Gratuities to widows or other representatives of eighteen deceased employees, under Civil Service Amendment Act, sec. H | | | 2,495 72 | 2,495 72 |
| Compensation to Ben. Schulson of snag boat 'Cygnet'. | | | 600 00 | 600 00 |
| Totals, Miscellaneous | 294,156 62 | | 209,070 63 | 503,227 25 |

PART II—STATEMENT A—EXPENDITURE—*Concluded.*

| Name of Work. | Dredging. | Construction and Improvements. | Repairs. | Staff and Maintenance. | Total. |
|---|---|---|---|---|---|
| RECAPITULATION. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| Totals, Public Buildings— | | | | | |
| Nova Scotia | | 65,421 51 | 11,598 14 | 65,242 63 | 142,262 28 |
| Prince Edward Island | | 18,884 05 | 3,235 57 | 10,405 40 | 32,525 02 |
| New Brunswick | | 199,561 84 | 6,709 65 | 48,007 30 | 254,278 79 |
| Quebec | | 1,273,916 41 | 28,898 17 | 213,754 86 | 1,516,569 44 |
| Ottawa buildings | | 1,607,856 57 | 291,737 95 | 601,229 59 | 2,500,824 11 |
| Ontario (excluding Ottawa) | | 890,440 33 | 27,296 95 | 173,834 95 | 1,091,572 23 |
| Manitoba | | 58,285 63 | 5,337 91 | 72,372 24 | 135,995 78 |
| Saskatchewan and Alberta | | 743,193 47 | 9,655 74 | 99,640 30 | 852,489 51 |
| British Columbia | | 688,346 03 | 12,316 03 | 69,374 27 | 770,036 33 |
| Yukon Territory | | 3,159 78 | | 61,951 63 | 65,111 41 |
| Public Buildings—Generally | | | | 59,220 42 | 59,220 42 |
| Totals, Harbours and Rivers— | | | | | |
| Nova Scotia | 384,347 10 | 404,900 08 | 45,581 29 | 8,325 33 | 843,153 80 |
| Prince Edward Island | 120,630 31 | 50,921 23 | 8,433 18 | 2,751 48 | 182,736 20 |
| New Brunswick | 1,350,978 18 | 416,301 63 | 14,650 20 | 16,929 80 | 1,798,859 81 |
| Quebec | 647,231 32 | 651,972 19 | 78,304 81 | 54,043 63 | 1,431,551 95 |
| Ontario | 1,805,446 07 | 1,211,899 89 | 52,427 73 | 56,376 32 | 3,126,150 01 |
| Manitoba | 72,672 94 | 65,911 16 | | 21,903 87 | 160,487 97 |
| Saskatchewan and Alberta | 10,826 71 | 61,169 12 | 671 26 | 2,046 86 | 74,713 95 |
| British Columbia | 893,141 23 | 364,431 37 | 8,326 16 | 24,441 88 | 1,290,340 64 |
| Yukon Territory | | 4,155 12 | | | 4,155 12 |
| Harbours and Rivers, Generally | 6,949 12 | | | 304,182 05 | 311,131 17 |
| Totals, dredges and dredging plant | | 458,798 53 | 218,951 63 | | 677,750 16 |
| " slides and booms | | 14,780 72 | 12,814 22 | 96,624 69 | 124,219 63 |
| " roads and bridges | | 131,496 08 | 10,490 39 | 10,594 57 | 152,581 04 |
| " telegraph lines | | 248,405 99 | 2,323 09 | 491,550 80 | 742,279 88 |
| " miscellaneous | | 294,156 62 | | 209,070 63 | 503,227 25 |
| Grand totals of expenditure | 5,292,222 98 | 9,928,365 35 | 849,760 07 | 2,773,875 50 | 18,844,223 90 |

PART II—STATEMENT B—SHOWING the Cost of the following Service for each Public Building, &c., (the total for each Province being carried into statement 'A').

| Name of Building. | Rents. | Salaries and Supplies for Caretakers. | Heating. | Lighting. | Water. | Total. |
|---|---|---|---|---|---|---|
| *Nova Scotia.* | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| Amherst post office, etc | | 567 45 | 300 90 | 1,396 53 | 32 00 | 2,296 88 |
| Annapolis post office, etc | | 424 46 | 258 00 | 147 00 | 30 00 | 859 46 |
| Antigonish post office, etc | | 467 26 | 189 16 | 265 25 | | 921 67 |
| Arichat post office, etc | | 193 88 | 340 00 | 53 05 | | 586 93 |
| Baddeck post office, etc | | 411 30 | 202 00 | 53 84 | | 667 14 |
| Bridgewater post office, etc | | 495 44 | 160 08 | | 33 88 | 689 40 |
| Canso post office, etc | | 429 21 | 292 50 | 131 50 | | 853 21 |
| Dartmouth post office, etc | | 444 72 | 69 88 | 114 62 | 23 50 | 652 72 |
| Digby post office, etc | 6 00 | 466 58 | 289 00 | 423 40 | 64 00 | 1,248 98 |
| Glace Bay post office, etc | | 606 30 | 213 90 | 381 85 | 55 00 | 1,257 05 |
| Guysboro post office, etc | | 181 41 | 260 00 | 294 55 | 8 75 | 744 71 |
| Halifax Asst. Rec. Gen's office | 1,250 00 | 795 99 | 399 50 | 143 98 | 374 93 | 2,964 40 |
| " custom-house | 51 20 | 5,379 62 | 1,416 85 | 2,009 03 | 2,444 15 | 11,300 85 |
| " engineer's office | 3 75 | 1 26 | | | | 5 01 |
| " Dominion building (P.O.) | 12 00 | 4,688 76 | 1,444 58 | 2,200 55 | 1,057 89 | 9,403 78 |
| " Immigration building | | 759 92 | 1,745 32 | 3,106 90 | 1,886 26 | 7,498 40 |
| " " Detention Hospital (Trachoma) | | | 1,043 33 | 332 66 | 1,395 89 | 2,771 88 |
| " " steamers' inspector office | 3 75 | | | | | 3 75 |
| Inverness post office, etc | | 436 06 | 121 77 | 301 95 | 45 00 | 904 78 |
| Kentville post office, etc | | 399 96 | 264 94 | 250 45 | 50 00 | 965 35 |
| Liverpool post office, etc | | 403 96 | 162 00 | 180 67 | 18 00 | 764 63 |
| Lunenburg post office, etc | | 520 91 | 333 25 | 508 40 | 59 00 | 1,421 56 |
| New Glasgow post office | | 476 50 | 214 78 | 433 11 | 100 00 | 1,224 39 |
| North Sydney post office | | 485 01 | 661 22 | 600 30 | 32 00 | 1,778 53 |
| " engineer's office | 600 00 | | | | | 600 00 |
| " immigration building | | | | 26 37 | | 26 37 |
| Pictou post office | | 456 94 | 221 14 | 35 35 | | 713 43 |
| " custom-house | | 185 21 | 262 16 | 3 00 | | 450 37 |
| Shelburne post office | | 470 80 | 267 55 | 294 50 | | 1,032 85 |
| Springhill post office, etc | | 535 66 | 261 70 | 478 25 | 30 00 | 1,305 61 |
| Sydney post office, etc | | 675 48 | 36 00 | 1,023 94 | | 1,735 42 |
| " immigration building | | | | 7 55 | | 7 55 |
| " Mines post office | | 479 32 | 47 32 | 474 47 | 30 00 | 1,031 11 |
| " " railway mail rooms | | 10 00 | | | | 10 00 |
| Truro post office, etc | | 508 53 | 275 50 | 617 28 | | 1,401 31 |
| Westville post office, etc | | 414 62 | 20 00 | 194 91 | 21 00 | 650 53 |
| Windsor post office etc | | 499 92 | 332 68 | 218 75 | 75 00 | 1,126 35 |
| Wolfville post office, etc | | | 186 90 | | | 186 90 |
| Yarmouth post office, etc | | 477 06 | 410 40 | 717 77 | 72 00 | 1,677 23 |
| Total, Nova Scotia | 1,926 70 | 23,749 50 | 12,704 31 | 17,421 73 | 7,938 25 | 63,740 49 |
| *Prince Edward Island.* | | | | | | |
| Charlottetown Dominion building | | 2,935 66 | 734 71 | 2,194 64 | 236 00 | 6,101 01 |
| " Marine and Fisheries building | 44 00 | 386 44 | 303 50 | 37 02 | 11 00 | 781 96 |
| " Experimental farm | | | 174 99 | 51 26 | | 226 25 |
| " Immigration Agency | 120 25 | | | | 1 00 | 121 25 |
| Georgetown post office, etc | | 175 10 | 193 74 | 32 05 | | 400 89 |
| Montague post office, etc | | 179 36 | 223 12 | 76 78 | | 479 26 |
| Souris post office, etc | | 442 88 | 357 64 | 188 00 | | 988 52 |
| Summerside post office, etc | | 442 91 | 413 86 | 336 30 | 38 00 | 1,231 07 |
| Tignish post office, etc | | | 75 19 | | | 75 19 |
| Total, Prince Edward Island | 164 25 | 4,562 35 | 2,476 75 | 2,916 05 | 286 00 | 10,405 40 |

PART II—STATEMENT B—EXPENDITURE—*Continued.*

| Name of Building. | Rents. | Salaries and Supplies for Caretakers. | Heating. | Lighting. | Water. | Total. |
|---|---|---|---|---|---|---|
| *New Brunswick.* | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| Bathurst post office, etc | | 453 71 | 395 32 | 7 75 | | 856 78 |
| Campbellton post office, etc | | 447 36 | 224 00 | 401 88 | 43 25 | 1,116 49 |
| " temporary post office | 111 50 | | 6 96 | | | 118 46 |
| Carleton, St. John West, post office | | 464 96 | 121 43 | 83 01 | 10 50 | 679 90 |
| Chatham post office, etc | 78 75 | 313 60 | | 496 23 | 20 00 | 908 58 |
| Clair immigration building | 50 00 | | | | | 50 00 |
| Dalhousie post office, etc | | 442 49 | 278 22 | 33 15 | 19 50 | 773 36 |
| Edmonton immigration building | 10 00 | | | | | 10 00 |
| Fairville post office, etc | | 49 01 | 175 50 | | | 224 51 |
| Fredericton post office, etc | | 545 82 | 503 66 | 932 37 | 81 00 | 2,062 85 |
| " immigration building | 299 98 | | 8 50 | 16 20 | 9 00 | 333 68 |
| Grand Falls post office, etc | 60 00 | 236 91 | | 9 45 | | 306 36 |
| Hartland post office, etc | | 414 02 | 255 16 | 60 00 | 30 00 | 759 18 |
| Hillsborough post office, etc | | 139 15 | 67 26 | | | 206 41 |
| Marysville post office, etc | | 145 36 | 237 66 | 33 10 | 52 00 | 468 12 |
| Moncton post office, etc | | 463 50 | 473 56 | 585 53 | 134 00 | 1,656 59 |
| Newcastle post office, etc | | 422 77 | 657 65 | 475 65 | 35 00 | 1,591 07 |
| Richibucto post office, etc | | 438 56 | 402 08 | 382 36 | | 1,223 00 |
| St. John custom-house | 124 75 | 2,963 85 | 2,338 81 | 700 93 | 1,661 68 | 7,790 02 |
| " detention hospital | | 547 50 | 65 82 | 11 02 | | 624 34 |
| " engineer's office | 1,044 00 | | | | 7 50 | 1,051 50 |
| " immigration building | 2,105 32 | 1,321 10 | 1,409 70 | 687 75 | 321 05 | 5,844 92 |
| " post office | | 3,400 55 | 931 66 | 3,777 39 | 1,183 82 | 9,293 42 |
| " quarantine station, Partridge island | | 720 00 | | | 438 91 | 1,158 91 |
| " savings bank | | 45 | 296 22 | 103 59 | 32 45 | 432 71 |
| St. Leonard immigration building | 56 00 | | | | | 56 00 |
| St. Clair immigration building | 50 00 | | | | | 50 00 |
| St. Stephen immigration building | 150 00 | | 22 50 | | 6 50 | 179 00 |
| " post office, etc | | 578 37 | 187 50 | 301 92 | 38 34 | 1,106 13 |
| Sussex post office, etc | | 410 56 | 419 25 | 94 21 | 50 00 | 974 02 |
| Tracadie lazaretto | | 762 25 | 1,809 10 | | | 2,571 35 |
| Woodstock post office, etc | | 568 00 | 330 00 | 454 83 | 34 00 | 1,386 83 |
| Total, New Brunswick | 4,140 30 | 16,249 85 | 11,617 52 | 9,648 32 | 4,208 50 | 45,864 49 |
| *Quebec.* | | | | | | |
| Arthabaska post office, etc | | 270 32 | 557 43 | 87 12 | | 914 87 |
| Acton Vale post office, etc | | 515 44 | 164 62 | 223 71 | 24 00 | 927 77 |
| Asbestos post office, etc | 157 50 | | | | | 157 50 |
| Aylmer post office, etc | | 276 36 | 335 12 | 258 72 | 47 25 | 917 45 |
| Berthierville post office, etc | | 77 62 | 216 75 | 88 54 | 34 25 | 417 16 |
| Beauharnois post office, etc | 112 50 | | | | | 112 50 |
| Black Lake post office, etc | 150 00 | | | | | 150 00 |
| Buckingham post office, etc | | 125 15 | 246 52 | 127 80 | 55 80 | 555 27 |
| Cap Rouge experimental farm | | | 7 55 | | | 7 55 |
| Chicoutimi post office, etc | | 587 16 | 411 90 | 578 88 | 300 00 | 1,877 94 |
| " engineer's office | 43 75 | | | | | 43 75 |
| Coaticook post office, etc | | 508 18 | 297 60 | 236 06 | 50 00 | 1,091 84 |
| Cookshire post office, etc | | 399 96 | 231 15 | 159 01 | 20 00 | 810 12 |
| Drummondville post office, etc | | 439 15 | 258 55 | 142 88 | 10 45 | 851 03 |
| Dundee custom-house | | | 96 50 | | | 96 50 |
| Farnham (West) post office, etc | | 1,337 61 | 161 25 | 96 76 | 25 00 | 1,620 62 |
| Fraserville post office, etc | | 413 36 | 384 87 | 163 03 | 200 00 | 1,161 26 |
| Granby post office, etc | | 332 61 | 272 25 | 153 77 | 150 00 | 908 63 |
| Hochelaga post office, etc | | 236 45 | 241 17 | 324 39 | 70 87 | 872 88 |
| Iberville post office, etc | | 480 00 | 83 88 | | 12 00 | 575 88 |
| Hull post office, etc | | 150 00 | 306 00 | 438 27 | 290 57 | 1,184 84 |
| Isle Verte post office, etc | 84 00 | | | | | 84 00 |
| Joliette post office, etc | | 445 65 | 205 00 | 77 70 | 108 00 | 836 35 |
| Knowlton post office and armoury | | 159 02 | 238 78 | 141 32 | 21 00 | 560 12 |
| Lachine post office, etc | | 116 21 | 183 81 | 274 84 | 52 40 | 627 26 |
| Lachute post office, etc | | 413 05 | 210 77 | 447 96 | 37 00 | 1,108 78 |
| Laprairie post office, etc | | 173 53 | 208 23 | 37 51 | 45 00 | 464 27 |
| L'Assomption post office, etc | | 306 50 | 195 00 | 140 73 | 130 00 | 772 23 |

PART II—STATEMENT B—EXPENDITURE—*Continued.*

| Name of Building. | Rents. | Salaries and Supplies for Care-takers. | Heating. | Lighting. | Water. | Total. |
|---|---|---|---|---|---|---|
| *Quebec*—Continued. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| Levis, post office, etc. | | 537 18 | 670 95 | 485 96 | 250 00 | 1,944 09 |
| Longueuil post office, etc. | | 315 90 | 187 00 | 114 77 | 52 30 | 669 97 |
| Megantic post office, etc. | | 443 62 | 245 46 | 203 40 | 6 00 | 898 48 |
| Magog post office, etc | | 464 33 | 274 93 | 178 48 | 78 56 | 996 30 |
| Marieville post office, etc. | | 101 75 | 231 23 | | | 332 98 |
| Montmagny post office, etc. | 100 00 | 574 46 | 287 00 | 185 02 | 50 00 | 1,196 48 |
| Montreal Canadian ordnance corps | 2,000 00 | | | | | 2,000 00 |
| " Canal custom house | | | | 24 33 | 3 88 | 28 21 |
| " Canadian express and parcel office | | 985 05 | 923 07 | 1,235 57 | 248 38 | 3,392 07 |
| " custom house | 26 25 | 5,317 22 | 1,570 65 | 1,171 66 | 493 79 | 8,579 57 |
| " examining warehouse | 63 75 | 13,607 98 | 1,938 26 | 3,501 07 | 1,119 63 | 20,230 69 |
| " immigration building | 3,374 50 | 35 00 | 598 03 | 271 24 | 134 15 | 4,412 92 |
| " Inland Revenue | | 1,015 24 | 418 42 | 53 22 | 119 37 | 1,606 25 |
| " post office (main) | 343 14 | 38,862 14 | 4,388 80 | 18,776 53 | 2,686 96 | 65,057 57 |
| " Postal Station 'B' (Ste. Catharines) 'C' (Amherst St.) | 1,000 00 | 1,239 72 | 610 09 | 946 27 | 408 41 | 3,204 49 |
| " " 'D' | | 773 13 | 47 21 | 846 21 | 96 09 | 2,762 64 |
| " " 'E' | | 727 84 | 263 29 | 192 34 | 114 52 | 1,297 99 |
| " " Public Works office | 2,469 11 | 919 69 | 522 63 | 587 55 | 21 45 | 2,051 32 |
| " " St. Cunegonde post office, etc. | 1,750 00 | 1 56 | | 4 20 | 53 61 | 2,528 48 |
| " " St. Henri post office, etc. | | | | | | 1,750 00 |
| " " Westmount letter carrier depot | 1,012 50 | 453 70 | 239 01 | 172 32 | 33 03 | 898 06 |
| " " Windsor Station, postal station | 213 00 | 3 00 | 71 77 | 32 19 | 21 59 | 1,141 05 |
| Nicolet post office, etc. | | | | | | 213 00 |
| Nominingue immigration building | | 520 49 | 178 49 | 164 58 | 70 50 | 934 06 |
| Peribonka immigration building | | 300 00 | 178 50 | 18 63 | | 497 13 |
| Pierreville Post Office, etc. | | 300 00 | 81 70 | 4 05 | | 385 75 |
| Plessisville post office, etc. | | 158 94 | 118 00 | 22 08 | | 299 02 |
| Quebec Citadel building | 34 00 | 157 09 | 259 00 | 123 10 | 55 90 | 595 09 |
| " colonization agency | 429 18 | 547 50 | 791 43 | 371 56 | | 1,744 49 |
| " culler's office | | | | | | 429 18 |
| " custom house | | 541 25 | 12 00 | | | 553 25 |
| " immigration detention hospital | 600 00 | 666 37 | 1,342 36 | 42 75 | | 2,051 48 |
| " engineer's office (St. John st.) | 168 00 | | 861 22 | 336 44 | 5,508 19 | 7,305 85 |
| " examining warehouse | | | | | | 168 00 |
| " immigration building | | 1,621 65 | 1,191 36 | 543 83 | | 3,356 84 |
| " Inland Revenue gas inspectors, W. & M. O. | 1,350 00 | | 861 05 | 1,679 87 | 461 25 | 3,002 17 |
| " observatory | | | 103 69 | 115 33 | | 1,569 02 |
| " post office | 245 50 | 8,985 14 | 1,382 13 | 111 75 | 100 00 | 211 75 |
| " Queen's wharf building | | | 697 45 | 2,292 22 | 750 00 | 13,654 99 |
| " St. Sauveur post office | 720 00 | 150 00 | | | 875 00 | 1,572 45 |
| " St. Roch post office | | 508 57 | 389 44 | 471 00 | 40 00 | 910 00 |
| Richmond post office, etc. | | 474 49 | 319 52 | 291 80 | 800 00 | 2,169 01 |
| Rigaud post office, etc. | | 125 00 | 291 32 | | 25 00 | 1,110 81 |
| Rimouski post office, etc. | | 316 72 | 349 14 | 225 57 | 75 00 | 416 32 |
| " engineer's office | 285 00 | | | | | 966 43 |
| Roberval immigration shed | | 300 00 | | 220 27 | 25 00 | 285 00 |
| Shawinigan Falls public building | | 60 00 | 280 00 | | | 545 27 |
| Sherbrooke post office, etc. | | 704 08 | 516 04 | 645 56 | 50 00 | 340 00 |
| " engineer's office | 613 18 | | | | | 1,915 68 |
| Sorel post office, etc. | | 601 99 | 503 73 | 500 39 | 257 48 | 613 18 |
| Ste. Anne de Bellevue post office, etc. | 150 00 | | | | | 1,863 59 |
| St. Eustache post office, etc. | 144 00 | | | 51 98 | | 150 00 |
| St. Felix de Valois post office, etc. | 93 00 | | | | | 195 98 |
| St. George East Beauce post office, etc | 100 00 | | | | | 93 00 |
| St. Gabriel de Brandon post office, etc. | 150 00 | | | | | 100 00 |
| St. Hyacinthe post office, etc. | | 654 21 | 246 51 | 334 12 | 150 00 | 150 00 |
| " Inland Revenue | | 415 54 | 167 81 | 27 48 | 100 00 | 1,384 84 |
| St. Jerome post office, etc. | | 412 91 | 313 24 | 122 41 | 102 80 | 710 83 |
| St. Johns post office, etc. | | 315 65 | 355 96 | 258 35 | 80 00 | 951 36 |
| | | | | | | 1,009 96 |

PART II—STATEMENT B—EXPENDITURE—*Concluded.*

| Name of Building. | Rents. | Salaries and Supplies for Caretakers. | Heating. | Lighting. | Water. | Total. |
|---|---|---|---|---|---|---|
| *Quebec*—Concluded. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| St. Johns custom house | | 349 92 | | 53 65 | 30 00 | 433 57 |
| " engineer's office | 7 33 | | | | | 7 33 |
| St. Regis Indian office and custom house | | | 50 75 | | | 50 75 |
| Terrebonne post office, etc | | 318 98 | 155 39 | 175 58 | 15 00 | 664 95 |
| Thetford Mines post office, etc | | 182 35 | 357 89 | 246 00 | 100 00 | 886 24 |
| Three Rivers engineer's office | 104 00 | | | | | 104 00 |
| " post office, etc | 25 00 | 914 04 | 160 50 | 588 67 | 52 25 | 1,740 46 |
| Trois Pistoles post office | 50 00 | | | | | 50 00 |
| Valleyfield post office, etc | | 614 34 | 468 63 | 299 75 | 90 00 | 1,472 72 |
| Victoriaville post office, etc | 1 00 | 292 94 | 370 07 | 313 67 | 50 00 | 1,027 68 |
| Total for Quebec | 18,169 19 | 95,652 00 | 32,356 82 | 43,833 77 | 17,538 68 | 207,550 46 |
| *Ottawa Buildings.* | | | | | | |
| Archives building | | 1,440 00 | 831 37 | 558 22 | | 2,829 59 |
| Astronomical observatory | | | 774 00 | 881 46 | | 1,655 46 |
| Experimental farm | | | 2,652 60 | 165 25 | | 2,817 85 |
| Fisheries Museum | | | 252 25 | 332 05 | | 584 30 |
| Fuel testing building (Mines) | | | 424 30 | 107 19 | | 531 49 |
| Government grounds | | | | 158 79 | | 158 79 |
| Interior Department (Cliff st.) | | | 85 36 | 45 51 | | 130 87 |
| Mines building (Sussex st.) | | 2,280 00 | 1,146 49 | 10 50 | | 3,436 99 |
| Naval Service building | | 1,080 00 | 436 21 | 377 70 | | 1,893 91 |
| Parliament and departmental buildings | | 55,848 40 | 49,095 73 | 24,092 95 | | 129,037 08 |
| Post office | | 5,760 00 | 1,693 87 | 1,669 76 | | 9,123 63 |
| Printing bureau | | | 10,764 92 | 4,340 86 | | 15,105 78 |
| Public Works—workshops | | 360 00 | 1,166 15 | 539 41 | | 2,065 56 |
| Rideau Hall—guardroom | | | 102 00 | | | 102 00 |
| Royal Mint | | 720 00 | 3,805 47 | 367 80 | | 4,893 27 |
| Supreme Court | | 1,440 00 | 950 80 | 612 94 | | 3,003 74 |
| Victoria Island—shipyard | | | | 22 75 | | 22 75 |
| Victoria Memorial Museum | | 9,936 00 | 6,760 20 | 1,709 45 | | 18,405 65 |
| Sundry buildings occupied as minor departmental offices— | | | | | | |
| Wellington—Vittoria st. district | | 720 00 | 1,412 91 | 70 44 | | 2,203 35 |
| " Sparks st. (Egan block) | | 360 00 | 571 82 | 11 50 | | 943 32 |
| Sussex—MacKenzie avenue | | | 16 43 | | | 16 43 |
| Rented buildings | 239,145 49 | 14,040 00 | 2,622 28 | 23,097 37 | | 278,905 14 |
| Total, Ottawa Buildings | 239,145 49 | 93,984 40 | 85,565 16 | 59,171 90 | | 477,866 95 |
| *Ontario—Excluding Ottawa Buildings.* | | | | | | |
| Alexandria post office, etc | | 558,07 | 280 30 | 222 30 | 7 50 | 1,068 17 |
| Almonte post office, etc | | 425 86 | 43 25 | 56 37 | 77 00 | 602 48 |
| Amherstburg post office, etc | | 411 98 | 225 00 | 215 90 | 45 00 | 897 88 |
| Arnprior post office, etc | | 403 86 | 277 49 | 608 28 | 32 40 | 1,322 03 |
| Barrie post office etc | | 440 85 | 426 09 | 167 72 | 67 50 | 1,102 16 |
| Belleville post office, etc | | 752 84 | 743 35 | 1,186 34 | 83 25 | 2,765 78 |
| Berlin post office, etc | | 511 87 | 546 56 | 345 35 | 20 71 | 1,424 49 |
| Blenheim post office etc | 150 00 | | | | | 150 00 |
| Bowmanville post office etc | | 465 50 | 206 90 | 184 22 | 10 00 | 866 62 |
| Brampton post office, etc | | 399 96 | 38 95 | 159 65 | 25 00 | 623 56 |
| Brantford post office, etc | | 605 25 | 311 60 | 337 60 | 56 79 | 1,311 24 |
| Bridgeburg post office, etc | | 379 11 | 166 50 | 380 57 | 20 00 | 946 18 |
| Brockville post office, etc | | 752 83 | 453 50 | 660 90 | 170 00 | 2,037 23 |
| Carleton Place post office, etc | | 410 61 | 207 02 | 131 27 | | 748 90 |
| Cayuga post office, etc | | 65 32 | 48 57 | 56 88 | 3 80 | 174 57 |
| Chatham post office, etc | | 629 89 | 265 57 | 132 59 | 14 63 | 1,042 68 |
| Clinton post office, etc | | 211 97 | 310 24 | 197 50 | 17 02 | 736 73 |
| Cobourg post office, etc | | 546 00 | 312 81 | 390 82 | 34 12 | 1,283 75 |

PART II—STATEMENT B—EXPENDITURE—*Continued.*

| Name of Building. | Rents. | Salaries and Supplies for Caretakers. | Heating. | Lighting. | Water. | Total. |
|---|---|---|---|---|---|---|
| *Ontario*—Continued. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| Cornwall post office, etc | | 586 09 | 519 02 | 801 16 | 75 00 | 1,981 27 |
| Deseronto post office, etc | | 581 87 | 329 00 | 287 54 | 39 00 | 1,237 41 |
| Dresden post office, etc | | | 231 00 | | | 231 00 |
| Dundas post office, etc | 600 00 | 49 92 | 51 23 | 67 65 | 6 00 | 774 80 |
| Elora post office, etc | | 132 27 | 163 99 | 161 75 | | 458 01 |
| Essex post office, etc | | 78 88 | | | | 78 88 |
| Fergus post office, etc | | 424 81 | 209 65 | 185 45 | | 819 91 |
| Fort Francis immigration shed | 75 00 | | | | | 75 00 |
| Fort William post office | | 602 56 | 567 00 | 732 30 | 90 00 | 1,991 86 |
| " engineer's office | 600 00 | | | | | 600 00 |
| Galt public building | | 531 32 | 331 11 | 211 88 | 35 45 | 1,109 76 |
| Gananoque post office | | 9 59 | 118 15 | 218 04 | 28 67 | 374 45 |
| " custom house | | 18 35 | 176 50 | 83 24 | 16 57 | 294 66 |
| Glencoe post office, etc | | 422 34 | 289 90 | 218 74 | 1 00 | 931 98 |
| Goderich post office, etc | | 456 80 | 280 08 | 201 51 | 60 00 | 998 39 |
| Guelph post office, etc | | 619 58 | 585 68 | 674 12 | 60 87 | 1,940 25 |
| Hamilton custom house | | 1,592 50 | | | | 1,592 50 |
| " Winer building, temporary post office | 100 00 | | | 12 56 | | 112 56 |
| " Inland Revenue | | 2 00 | 136 27 | 39 08 | 21 85 | 199 20 |
| " post office and examining warehouse | | 2,856 18 | 1,363 97 | 1,654 81 | 1,020 05 | 6,895 01 |
| " immigration building | 240 00 | | | | | 240 00 |
| " postal station 'B' | 630 00 | | 5 83 | 55 23 | 13 10 | 704 16 |
| Harriston post office, etc | | 180 23 | 396 76 | 177 43 | | 754 42 |
| Hawkesbury, post office, etc | | 479 23 | 235 07 | 126 25 | 18 00 | 858 55 |
| Ingersoll post office, etc | | 463 30 | 362 90 | 332 94 | 12 04 | 1,171 18 |
| Kenora post office, etc | | 460 31 | 483 18 | 303 41 | 70 76 | 1,317 66 |
| Kincardine post office, etc | | 274 96 | 333 92 | 200 00 | 10 00 | 818 88 |
| Kingston custom house | | 408 12 | 165 60 | 94 05 | 59 25 | 727 02 |
| " Inland Revenue | 1,759 43 | 621 22 | 21 00 | 59 50 | 109 08 | 2,570 23 |
| " ordnance corps | 1,000 00 | | | | | 1,000 00 |
| " post office | | 765 32 | 42 10 | 1,225 21 | 59 50 | 2,092 13 |
| Leamington post office, etc | | 469 25 | 129 75 | 246 30 | 21 00 | 866 30 |
| Lindsay, post office, etc | | 468 40 | 292 66 | 112 74 | 30 00 | 903 80 |
| Listowell post office, etc | | 164 50 | 474 23 | 77 00 | 2 50 | 718 23 |
| London custom-house | | 1,083 46 | 61 50 | 607 92 | 122 52 | 1,875 40 |
| " engineer's office | 375 00 | | | | | 375 00 |
| " immigration building | | | 4 25 | | | 4 25 |
| " post office | | 1,532 26 | 83 65 | 2,287 15 | 70 00 | 3,973 06 |
| L'Orignal post office, etc | 125 00 | | | | | 125 00 |
| Markham post office, etc | | 609 82 | 87 84 | 72 90 | | 770 56 |
| Mount Forest post office, etc | | 177 73 | 246 46 | 85 70 | 4 83 | 514 72 |
| North Bay post office, etc | | 864 72 | 603 91 | 433 77 | 38 00 | 1,940 40 |
| Napanee post office, etc | | 572 82 | 371 54 | 149 10 | 79 35 | 1,172 81 |
| Niagara Falls post office, etc | | 684 22 | 311 00 | 272 98 | 36 99 | 1,305 19 |
| Orangeville post office, etc | | 576 94 | 191 00 | 159 86 | 20 00 | 947 80 |
| Orillia post office, etc | | 428 94 | 267 20 | 110 58 | 32 50 | 839 22 |
| Oshawa post office, etc | | 523 40 | 231 89 | 205 43 | 27 61 | 988 33 |
| Owen Sound post office, etc | | 423 16 | 855 29 | 180 87 | 50 00 | 1,509 32 |
| Park Hill post office, etc | | 215 17 | 206 79 | 68 98 | | 490 94 |
| Paris post office, etc | | 409 91 | 144 10 | 66 67 | 61 60 | 682 28 |
| Pembroke post office, etc | | 436 86 | 370 53 | 229 25 | 36 00 | 1,072 64 |
| Peterboro custom-house | | 316 60 | 30 88 | 188 49 | 50 00 | 585 97 |
| Peterboro post office, etc | | 731 60 | 437 02 | 177 20 | 78 00 | 1,423 82 |
| Petrolea post office | | 463 75 | 164 70 | 236 56 | 47 76 | 912 77 |
| Picton post office | | 472 77 | 252 00 | 92 08 | 27 00 | 843 85 |
| Port Arthur post office | | 587 78 | 438 60 | 340 92 | 192 79 | 1,560 09 |
| Port Arthur immigration building | | | 79 00 | 45 45 | 12 40 | 136 85 |
| " engineer's office | 500 00 | | | 8 25 | | 508 25 |
| Port Colborne post office | | 399 96 | 146 10 | 62 00 | 20 00 | 628 06 |
| Port Burwell engineer's office | 25 00 | | | | | 25 00 |
| Port Hope post office | | 466 27 | 373 40 | 297 00 | 17 10 | 1,153 77 |
| Prescott custom-house | | 528 85 | 374 50 | 291 96 | 120 00 | 1,315 31 |
| Renfrew post office, etc | | 433 66 | 356 50 | 486 10 | 25 00 | 1,301 26 |
| Ridgetown post office, etc | 275 00 | | | | | 275 00 |

PART II—STATEMENT B—EXPENDITURE—*Continued.*

| Name of Building. | Rents. | Salaries and Supplies for Caretakers. | Heating. | Lighting. | Water. | Total. |
|---|---|---|---|---|---|---|
| *Ontario*—Concluded. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| Sandwich post office, etc | | 364 71 | 301 71 | 79 03 | 20 43 | 765 88 |
| Sarnia post office, etc | | 605 96 | 346 10 | 360 52 | 58 86 | 1,371 44 |
| Sault Ste. Marie post office, etc | | 719 00 | 802 64 | 374 35 | 65 52 | 1,961 51 |
| Simcoe post office, etc | | 498 20 | 95 50 | 120 15 | 20 00 | 733 85 |
| Smith's Falls, post office, etc | | 416 56 | 241 90 | 295 03 | 88 00 | 1,041 49 |
| Strathroy post office, etc | | 466 36 | 268 16 | 200 99 | 22 50 | 958 01 |
| Stratford post office, etc | | 667 00 | 467 87 | 251 15 | 58 00 | 1,444 02 |
| St. Catharines post office, etc | | 471 50 | 503 85 | 358 20 | 104 40 | 1,437 95 |
| St. Mary's post office, etc | | 418 70 | 315 25 | 309 01 | 26 78 | 1,069 74 |
| St. Thomas post office, etc | | 493 70 | 353 00 | 134 50 | 12 39 | 993 59 |
| Tillsonburg public building | | 203 41 | 158 80 | | | 362 21 |
| Toronto Asst. Rec. Gen'ls and Inland Rev. office | | 1,070 57 | 478 37 | 276 08 | 12 83 | 1,837 85 |
| " Supt. D. building | 8 00 | | | | | 8 00 |
| " garage | 333 28 | 410 01 | 353 86 | 154 30 | 2 50 | 1,253 95 |
| " custom-house | | 5,649 22 | 1,384 99 | 568 90 | 69 41 | 7,672 52 |
| " engineer's office | 1,565 54 | | | 60 58 | | 1,626 12 |
| " examining warehouse | 33 19 | 5,805 01 | 1,789 23 | 683 78 | 97 85 | 8,409 06 |
| " immigrant sheds | 1,000 00 | | | | | 1,000 00 |
| " steamboat inspector's office | 540 00 | | | | | 540 00 |
| " post office | | 15,148 59 | 1,745 80 | 4,913 64 | 181 73 | 21,989 76 |
| " postal station 'A' | 3,600 00 | 2,352 73 | 20 02 | 1,197 44 | | 7,170 19 |
| " postal station 'B' | 1,800 00 | 221 89 | 12 00 | 146 42 | 4 60 | 2,184 91 |
| " postal station 'C' | | 488 60 | 283 69 | 292 11 | 13 17 | 1,077 57 |
| " postal station 'D', Junction | | 637 50 | 295 08 | 264 94 | 5 80 | 1,203 32 |
| " postal station 'E' | 1,440 00 | 351 61 | 4 34 | 201 94 | 23 10 | 2,020 99 |
| " postal station 'F' | 52 00 | 1,151 59 | 502 81 | 289 82 | 22 64 | 2,018 86 |
| " postal station 'G' | 880 00 | 165 50 | 5 32 | 243 40 | | 1,294 22 |
| " postal station 'H' | | 35 90 | | | | 35 90 |
| " postal station 'K' | | 168 83 | 22 58 | 8 14 | | 199 55 |
| " sundry buildings | | 3,014 85 | | | | 3,014 85 |
| Trenton post office | | 563 00 | 275 38 | 598 12 | 61 25 | 1,497 75 |
| Uxbridge public building | | | 205 22 | | | 205 22 |
| Walkerton post office, etc | | 399 96 | 284 56 | 211 40 | 31 00 | 926 92 |
| Welland post office, etc | | 585 42 | 312 71 | 368 32 | 30 00 | 1,296 45 |
| Whitby post office, etc | | 510 21 | 238 39 | 377 52 | 38 00 | 1,164 12 |
| Windsor engineer's office | 633 25 | 4 00 | | | | 637 25 |
| " post office, etc | | 1,269 07 | 240 38 | 749 42 | 118 69 | 2,377 56 |
| Wingham post office, etc | | 152 59 | 293 73 | 130 57 | 17 64 | 594 53 |
| Woodstock post office, etc | | 547 17 | 410 39 | 333 11 | 39 20 | 1,329 87 |
| Ontario—Generally | | 20 40 | | | | 20 40 |
| Total for Ontario (excluding Ottawa) | 18,339 69 | 80,681 64 | 32,922 53 | 35,704 20 | 4,960 15 | 172,608 21 |
| *Manitoba.* | | | | | | |
| Brandon experimental farm | 440 00 | | 320 66 | 127 45 | | 888 11 |
| " custom house | | | | 3 60 | | 3 60 |
| " Dominion Lands office | | | | 5 95 | | 5 95 |
| " immigration building | | | 143 89 | 52 84 | 20 17 | 216 90 |
| " post office and lands office | | 1,029 05 | 1,467 56 | 903 66 | 176 68 | 3,576 95 |
| Dauphin immigration station | | | | 101 10 | | 101 10 |
| " post office, etc | | 563 45 | 844 54 | 462 24 | | 1,870 23 |
| Emerson immigration building | | | 127 68 | | | 127 68 |
| " post office | | 562 72 | 381 68 | 31 05 | | 975 45 |
| Neepawa post office, etc | | 817 83 | 424 61 | 224 90 | 9 50 | 1,476 84 |
| Portage la Prairie post office, etc | | 689 79 | 753 52 | 339 87 | 44 90 | 1,828 08 |
| " armoury | | 149 99 | 438 52 | 20 72 | | 609 23 |
| Selkirk post office | | 689 20 | 474 45 | 111 94 | 24 45 | 1,300 04 |
| Souris post office | | 505 92 | 373 37 | 209 25 | 45 10 | 1,133 64 |
| St. Boniface post office | | 667 10 | 310 24 | 25 28 | 11 00 | 1,013 62 |
| Swan River immigration building | 90 00 | | | | | 90 00 |
| Virden immigration building | 250 00 | | 38 00 | | | 288 00 |
| Wadena immigration building | | | 8 25 | | | 8 25 |
| Winnipeg Union Station armoury (formerly D.L.O.) | 604 00 | | | | | 604 00 |

PART II—STATEMENT B—EXPENDITURE—*Continued.*

| Name of Building. | Rents. | Salaries and Supplies for Caretakers. | Heating. | Lighting. | Water. | Total. |
|---|---|---|---|---|---|---|
| *Manitoba*—Concluded. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| Winnipeg Dominion public buildings | | 873 33 | | | | 873 33 |
| " grain exhibits building | 120 00 | | 67 50 | 3 13 | | 190 63 |
| " engineer's office | 914 85 | | | | | 914 85 |
| " examining warehouse | | 6,463 90 | 3,362 07 | 116 02 | 565 86 | 10,507 85 |
| " immigration building | | 1,195 33 | 4,106 03 | 561 15 | 529 00 | 6,391 51 |
| " Weights & Measures office, Indian Affairs, etc. (Bawlf building) | 3,442 50 | | | 10 93 | | 3,453 43 |
| " public buildings | 102 50 | 12,805 13 | 4,790 02 | 3,148 89 | 563 01 | 21,409 55 |
| " old post office, custom-house | | 5,359 10 | 1,855 75 | 227 46 | 123 66 | 7,565 97 |
| " postal station 'A' | 2,050 00 | | | | | 2,050 00 |
| " " 'B' | | 747 20 | 551 08 | 54 22 | 34 27 | 1,386 77 |
| " Railway Commissioners office | 632 50 | 104 00 | | 4 00 | | 740 50 |
| Total for Manitoba | 8,646 35 | 33,223 04 | 20,839 42 | 6,745 65 | 2,147 60 | 71,602 06 |
| *Saskatchewan and Alberta.* | | | | | | |
| Battleford Dominion Lands office | | | | 293 10 | | 293 10 |
| " immigration building | | | 202 50 | | | 202 50 |
| " post office | | 546 30 | 793 78 | 18 49 | 25 00 | 1,383 57 |
| Biggar immigration building | | | 160 40 | | | 160 40 |
| Calgary examining warehouse | 6,596 78 | | | 66 07 | | 6,662 85 |
| " custom express office | | | | 22 83 | | 22 83 |
| " forestry rangers | 1,290 35 | | | | | 1,290 35 |
| " gas and electric improvements (Cadogan block) | 420 00 | | | | | 420 00 |
| " immigration building | 10 00 | | 295 15 | 20 04 | 40 00 | 365 19 |
| " irrigation commissioners office | 1,625 00 | | | | | 1,625 00 |
| " W. & M. office (Costello) | 330 00 | | | | | 330 00 |
| " post office | | 3,938 95 | 1,695 27 | 2,259 34 | 300 00 | 8,193 56 |
| " temporary post office | 2,381 50 | 35 75 | 194 88 | 354 34 | 28 70 | 2,995 17 |
| " Railway Commissioners, (Bruner building) | 942 00 | 48 00 | | | | 990 00 |
| Castor immigration building | | | 36 07 | | | 36 07 |
| Edmonton Dominion Lands and Registry office | 5,400 00 | 313 69 | | 269 84 | | 5,983 53 |
| " examining warehouse | 1,884 00 | | | | | 1,884 00 |
| " immigration shed | 46 00 | | 525 06 | 160 81 | 215 90 | 947 77 |
| " immigrant building | 220 00 | | | | | 220 00 |
| " post office | | 5,286 65 | 1,794 39 | 2,687 37 | 141 20 | 9,909 61 |
| " telegraph office | 105 00 | | | | | 105 00 |
| Edson immigration building | | | 169 60 | | | 169 60 |
| Estevan post office | | 556 65 | 267 03 | 229 82 | 53 25 | 1,106 75 |
| Entwistle immigration building | | | 63 00 | | | 63 00 |
| Grand Prairie Dominion Lands office | 260 00 | | 138 00 | | | 398 00 |
| Gravelbourg immigration building | | | 241 00 | | | 241 00 |
| Grouard Dominion Lands office | 455 00 | | 116 50 | | | 571 50 |
| Humboldt Dominion Lands office | 240 00 | | 159 00 | | | 399 00 |
| " public building | | 156 37 | 595 96 | | | 752 33 |
| Herbert immigration building | 225 00 | | | | | 225 00 |
| Indian Head experimental farm, forestry office | 300 00 | | 1,105 00 | 187 87 | 123 81 | 1,716 68 |
| Irvine immigration building | 120 00 | | | | | 120 00 |
| Kelwood forestry office | 96 00 | | | | | 96 00 |
| Kerr-Robert immigration building | 1 00 | | 178 57 | | | 179 57 |
| Lacombe experimental farm | | | 175 03 | 88 46 | | 263 49 |
| Lloydminster immigration building | | | 197 68 | 46 80 | | 244 48 |
| Lethbridge Dominion Lands office | | 14 50 | 371 70 | 81 75 | 97 50 | 565 45 |
| " experimental farm | | | 213 70 | | | 213 70 |
| " immigration building | | | 169 15 | 52 11 | 97 50 | 318 76 |
| " immigrant building | 780 00 | | | 21 30 | | 801 30 |
| " post office | 3,433 34 | 605 09 | | 47 72 | | 4,086 06 |

PART II—STATEMENT B—EXPENDITURE—*Continued.*

| Name of Building. | Rents. | Salaries and Supplies for Caretakers. | Heating. | Lighting. | Water. | Total. |
|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| Macleod custom-house | | | 186 15 | 24 88 | 24 95 | 235 98 |
| Maple Creek post office | | 236 22 | 292 00 | 137 65 | 50 75 | 716 62 |
| Medicine Hat immigration building | 175 00 | | | | | 175 00 |
| " post office | | 1,008 35 | 113 90 | 248 06 | 40 50 | 1,410 81 |
| Moosejaw Dominion Lands office | 2,250 00 | 335 00 | | 566 19 | | 3,151 19 |
| " immigration building | 200 00 | | 157 20 | 43 25 | 29 85 | 430 30 |
| " Inland Revenue | 730 00 | | | | | 730 00 |
| " post office | | 734 67 | 459 85 | 1,087 05 | 46 40 | 2,327 97 |
| " railway mail service | 800 00 | 70 00 | | 12 96 | | 882 96 |
| North Battleford immigration building | 651 00 | | 39 70 | 95 70 | 25 05 | 811 45 |
| North Portal immigration building | 1 00 | | 114 27 | | 78 75 | 194 02 |
| Red Deer post office | | 786 00 | 299 25 | 52 55 | 39 00 | 1,176 80 |
| Regina examining warehouse | 750 00 | | | | | 750 00 |
| " Dominion Lands office and registry office | | 1,224 55 | 637 60 | 151 55 | 65 25 | 2,078 95 |
| " immigration building | | | 206 28 | 60 57 | 32 40 | 299 25 |
| " post office | 13 55 | 2,674 37 | 2,135 69 | 2,224 14 | 94 60 | 7,142 35 |
| Rosthern experimental farm | | | 329 50 | | | 329 50 |
| Prince Albert immigration shed | 120 00 | | 113 75 | 26 23 | 11 85 | 271 83 |
| " post office | | 1,909 55 | 1,220 54 | 1,202 74 | 82 32 | 4,415 15 |
| Saskatoon custom-house (temporary, 3rd ave.) | | | | 13 30 | | 13 30 |
| " custom-house, 1st ave | | | | 66 61 | | 66 61 |
| " immigration shed | | | 334 80 | 48 02 | 30 41 | 413 23 |
| " Dominion Lands office | 1,800 00 | | | | | 1,800 00 |
| " post office | | 1,693 88 | 1,027 71 | 1,855 69 | 194 38 | 4,771 66 |
| Scott experimental farm | | | 230 70 | | | 230 70 |
| Stettler immigration building | 60 00 | | | | | 60 00 |
| Strathcona immigration building | 189 00 | | 187 83 | 34 70 | 36 72 | 448 25 |
| " public building | | 768 65 | 515 98 | 217 13 | 127 75 | 1,629 51 |
| Swift Current Dominion Lands office | | | 38 89 | | | 38 89 |
| " immigration shed | 1 00 | | | | | 1 00 |
| " post office | 475 00 | | 54 93 | 9 00 | | 538 93 |
| Tisdale immigration building | | | 38 50 | | | 38 50 |
| Unity immigration building | | | 22 35 | | | 22 35 |
| Vanda immigration building | 240 00 | | 28 85 | | | 268 85 |
| Vegreville immigration building | 520 00 | | 5 00 | | | 525 00 |
| Vermilion immigration building | 1 00 | | 109 00 | | | 110 00 |
| Viking immigration building | | | 114 91 | | | 114 91 |
| Wilkie immigration building | 1 00 | | 214 02 | | | 215 02 |
| Wainwright immigration building | | | 67 74 | | | 67 74 |
| Wetaskiwin public building | | 293 25 | 264 51 | 141 06 | 3 75 | 702 57 |
| Yonker immigration building | | | 98 00 | | | 98 00 |
| Yorkton post office | | 578 25 | 781 13 | 646 98 | 69 50 | 2,075 86 |
| Total for Saskatchewan and Alberta | 36,138 52 | 23,814 60 | 20,298 95 | 15,874 07 | 2,207 04 | 98,333 18 |
| *British Columbia.* | | | | | | |
| Agassiz experimental farm | | | 282 28 | | | 282 28 |
| Atlin post office | | 155 00 | | 75 25 | | 230 25 |
| Chilliwack public building | | 13 71 | | | | 13 71 |
| Comox public building | | | 9 00 | | | 9 00 |
| Cranbrook public building | | 309 86 | 273 18 | | | 583 04 |
| Cumberland post office | | 673 22 | 176 00 | 300 00 | 60 00 | 1,209 22 |
| Fernie post office | | 886 55 | 188 00 | 243 25 | 54 00 | 1,371 80 |
| Kamloops post office | | 744 80 | 246 35 | 464 40 | 26 00 | 1,481 55 |
| Ladysmith post office | | 613 00 | 64 00 | 93 41 | 18 00 | 788 41 |
| Nanaimo post office, etc | | 1,775 10 | 347 00 | 534 35 | 36 00 | 2,692 45 |
| Nelson post office, etc | | 696 02 | 887 65 | 459 00 | 54 00 | 2,036 67 |
| New Westminster Indian and Fisheries office | | 634 46 | 128 00 | 48 20 | 28 33 | 838 99 |
| " post office | | 772 57 | 435 75 | 507 08 | 68 15 | 1,783 55 |
| Prince Rupert public building | 3,825 00 | | | 15 76 | | 3,840 76 |

PART II—STATEMENT B—EXPENDITURE—*Concluded.*

| Name of Building. | Rents. | Salaries and Supplies for Caretakers. | Heating. | Lighting. | Water. | Total. |
|---|---|---|---|---|---|---|
| *British Columbia*—Concluded. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| Rossland post office | | 661 35 | 553 05 | 660 00 | 94 48 | 1,968 88 |
| Revelstoke custom-house, Crown timber office, etc | 208 00 | | | | | 208 00 |
| Vancouver examining warehouse | 2,250 00 | 7 70 | 51 23 | 27 66 | 1 15 | 2,337 74 |
| " post office | | 11,950 81 | 1,766 14 | 4,380 42 | 288 84 | 18,386 21 |
| " temporary post office | 50 00 | | | 2 10 | | 52 10 |
| " North post office | 1,200 00 | 45 87 | | 196 35 | | 1,352 22 |
| " South post office | 600 00 | 476 14 | | 48 12 | | 1,124 26 |
| " old post office | | 69 60 | 410 63 | 209 44 | 68 96 | 758 63 |
| " customs express office | 825 00 | 1 00 | 45 00 | 11 44 | | 882 44 |
| " Chinese detention hospital | 300 00 | | | | | 300 00 |
| Vernon post office | | 595 23 | 480 35 | 160 76 | 26 25 | 1,262 59 |
| Victoria (E. W. Amos. Molden building) | 4,050 00 | 366 65 | 70 00 | 30 70 | 21 80 | 4,539 15 |
| " Marine and Indian office (old custom-house) | | 780 00 | 318 50 | 144 80 | 22 88 | 1,266 18 |
| " immigration detention hospital | | 3 75 | 411 50 | 225 35 | 117 45 | 758 05 |
| " post office, etc | 42 00 | 7,373 28 | 1,484 03 | 2,510 35 | 81 25 | 11,490 93 |
| " post office (old) | | 257 00 | | 23 70 | 139 75 | 420 45 |
| " caretaker's quarters | | 2 85 | 23 00 | 5 85 | 5 10 | 36 80 |
| Williams' Head quarantine station | | | 4,103 25 | | | 4,103 25 |
| Total for British Columbia | 13,350 00 | 29,865 52 | 12,753 91 | 11,287 74 | 1,212 39 | 68,469 56 |

PART II.—STATEMENT C.—Showing the amounts loaned by Government under the authority of Special Acts of Parliament, and upon the security of debentures of the borrowing corporation. The work upon which these funds are expended are of a quasi-public nature, and the several advances have been made upon the recommendation of the Honourable the Minister of Public Works, and after inspection by the Chief Engineer.

| To whom loaned. | Parliamentary Authority. | Purpose. | Amount. |
|---|---|---|---|
| Nil | | | |

# PART III

# REPORT

ON

# PUBLIC BUILDINGS THROUGHOUT THE DOMINION

FOR THE FISCAL YEAR ENDED MARCH 31, 1913

BY THE

## CHIEF ARCHITECT

PUBLIC WORKS, CANADA,
CHIEF ARCHITECT'S OFFICE,
OTTAWA, September 18, 1913.

R. C. DESROCHERS, Secretary,
Department of Public Works.

SIR,—I am sending you herewith, annual report of works executed under this branch during the fiscal year ended March 31, 1913.

D. EWART,
*Chief Architect.*

## PROVINCE OF NOVA SCOTIA.

### ARICHAT.

PUBLIC BUILDING.

Two sections were added to the hot-water heating furnace; repairs were made to the heating system and some locks were provided for the Customs Department.

Work supervised by W. Bishop, inspector of Dominion buildings, Nova Scotia.

### BRIDGEWATER.

PUBLIC BUILDING.

Alteration of the window sashes to assist automatic ventilation was made, and the clock tower, which is not yet completed, was repaired.

Work supervised by W. Bishop, inspector of Dominion buildings, Nova Scotia.

### CANSO.

PUBLIC BUILDING.

A concrete cess-pit to receive the drainage from the gas generator was built; the main drain, which had been blocked by the accumulation of used carbide, was opened and relaid; the building was painted inside and outside, and repairs were made to clock tower, roof and plumbing.

Work supervised by W. Bishop, inspector of Dominion buildings, Nova Scotia.

### DIGBY.

PUBLIC BUILDING.

New gates and platform were provided, as also a wash basin, in working portion of post office; the outside of window frames and sashes were painted; the outside doors varnished, and repairs were made to vault doors and plaster of public lobby, ground floor.

Work supervised by W. Bishop, inspector of Dominion buildings, Nova Scotia.

## GUYSBORO.

### PUBLIC BUILDING.

A well, to supply the building with water, was sunk on the hill opposite the front of the building; the outside doors were painted and varnished, and the furnaces were attended to.

Work supervised by Wm. Bishop, inspector of Dominion buildings, Nova Scotia.

## HALIFAX.

### IMMIGRATION BUILDING.

The floor of the wharf was repaired, some new piles driven to strengthen the wharf, and some new electric lights were installed.

Work supervised by W. Bishop, inspector of Dominion buildings, Nova Scotia.

### QUARANTINE STATION— LAWLOR'S ISLAND.

A residence for the engineer in charge was built; a concrete cess-pit was constructed for the drain of the first-class hospital; a number of the wooden buildings were shingled and repaired; all the buildings painted, including the inside of the first-class hospital, and a new road was constructed, reaching from the wharf to the first-class hospital.

Work supervised by W. Bishop, inspector of Dominion buildings, Nova Scotia.

### CUSTOM HOUSE.

A number of partitions in basement were removed; the office of staff of Customs appraisers was fitted up; a concrete floor was laid in basement; the Customs long room was fitted up with screens on counters, and the cashier's cage was shifted to opposite corner; the gaugers' offices were fitted with counter, new screen and water and gas service complete; the post office inspector's office had a brick partition removed, a new door broken through wall, filing cases set up and painting done; all under the supervision of Wm. Bishop, inspector, Dominion buildings, Nova Scotia.

### DOMINION BUILDING.

A portion of the postal staff was moved here from the basement of the custom-house, and the necessary alteration of fittings was made; new doors were hung at the freight elevator; an electric motor generator set to run freight elevator to basement was installed; the Customs parcels post offices and that for Customs advertising department were fitted up; wire boxes for letters were supplied; the electric stamping machine was fitted up, and wire screens were painted.

Work done under the supervision of Wm. Bishop, inspector of Dominion buildings, Nova Scotia.

### CATTLE QUARANTINE STATION.

The road leading to the stables was repaired; the well was sunk deeper to increase the supply of water for the station, and the roof of stables was painted.

Work supervised by W. Bishop, inspector of Dominion buildings, Nova Scotia.

### DETENTION HOSPITAL.

A stable, 35 feet by 20 feet, for the house horse, the teams and the resident physician's horse, was constructed; new outside sashes to windows on roof were provided to prevent water entering building; the men's room on first floor was divided into two

by a partition; a room on second floor was divided by a metal partition to form a strong room and had the windows iron-barred, and repairs were effected to outside cement cornice and to plumbing.

Work supervised by Wm. Bishop, inspector of Dominion buildings, Nova Scotia.

## INVERNESS.

### PUBLIC BUILDING.

A concrete footpath was laid on Railway and Second streets line, and a concrete retaining wall on Railway street; the woodwork of ground floor was painted, and the walls and ceilings of first floor were tinted.

Work supervised by Wm. Bishop, inspector of Dominion buildings, Nova Scotia.

## KENTVILLE.

### PUBLIC BUILDING.

Hardwood floors were laid in halls and in Collector of Customs office; the inside and outside woodwork was painted, and a clock tower was constructed.

Work supervised by Wm. Bishop, inspector of Dominion buildings, Nova Scotia.

## LIVERPOOL.

### PUBLIC BUILDING.

A section of letter boxes was added to the box screen, and the furnaces and mains in basement were encased in sectional asbestos covering.

Work supervised by Wm. Bishop, inspector of Dominion buildings, Nova Scotia.

## NEW GLASGOW.

### PUBLIC BUILDING.

The woodwork and ironwork, inside and outside, including the roof covering, were painted; a floor was laid in attic, and a stair leading thereto was constructed; a door was provided for the post office working room, and the plumbing and heating were repaired.

Work supervised by Wm. Bishop, inspector of Dominion public buildings, Nova Scotia.

## NORTH SYDNEY.

### IMMIGRATION SHED.

This is a one-story addition to the freight shed on the land end of the I.C.R. wharf, 100 feet long by the breadth of the building. Built in 1911, under the supervision of D. A. Hewitt, of this department, architect.

A water service, lavatories, w.c's., etc., were installed, the interior woodwork was painted, and improvements for the comfort of the immigrants effected.

Work supervised by Wm. Bishop, inspector of Dominion public buildings, Nova Scotia.

### PUBLIC BUILDING.

The slating was made good and the masonry pointed; a hardwood floor was laid in postmaster's office; the inside woodwork was painted, the floors treated and the walls and ceilings tinted, and repairs were made to roof and plumbing.

Work supervised by Wm. Bishop, inspector of Dominion public buildings, Nova Scotia.

## PARRSBORO.

### PUBLIC BUILDING.

This building, which was described in my report of last year, is still in process of construction.

Plans, etc., prepared by the department.

Clerk of works, J. M. Gillespie.

Contractors, Falconer and McDonald.

## PICTOU.

### CUSTOM HOUSE.

Hardwood floors were laid in ground floor hall and in Fisheries office, and the floors of Inland Revenue offices were treated; all the walls and ceilings of ground and first floors were cleaned, the walls painted and the ceilings tinted, and the entrance doors were painted and grained.

Work supervised by Wm. Bishop, inspector of Dominion public buildings, Nova Scotia.

### POST OFFICE.

The main drain was extended into the harbour beyond low water; the post office was cleaned, tinted and painted and the hardwood varnished, and all the exterior ironwork and woodwork were painted.

Work supervised by Wm. Bishop, inspector of Dominion public buildings, Nova Scotia.

## SHELBURNE.

### PUBLIC BUILDING.

Repairs were made to roofs, including that of clock tower, and the office of Inspector of Fisheries was provided with furniture, under the supervision of Wm. Bishop, inspector of Dominion public buildings, Nova Scotia.

## SPRINGHILL.

### PUBLIC BUILDING.

The interior and exterior joinery and ironwork were painted, the hardwood varnished, and some broken lights re-glazed; inside blinds were supplied to post office and Customs offices; a new ladder, 35 feet long, for the back of building to provide against fire, was supplied, and repairs were made to brickwork and locks.

Work done under the supervision of Wm. Bishop, inspector of Dominion buildings, Nova Scotia.

## SYDNEY MINES.

### PUBLIC BUILDING.

New sections were added to the heating furnaces and the apparatus throughout repaired, under the supervision of Wm. Bishop, inspector of Dominion buildings, Nova Scotia.

## SYDNEY.

PUBLIC BUILDING.

Repairs were made to a large surface of the external brickwork and to tile-work, plumbing and entrance doors.

Work supervised by Wm. Bishop, inspector of Dominion buildings, Nova Scotia.

QUARANTINE STATION (KEATING'S POINT).

The roofs of the buildings were shingled and painted, and the chimneys pointed with cement mortar, under the supervision of Wm. Bishop, inspector of Dominion buildings, Nova Scotia.

## TRURO.

PUBLIC BUILDING.

A drop letter box was placed in front of the building, an opening therefor made in wall and stone steps placed thereat; a new section of letter boxes was inserted in the screen and glazed sashes were introduced over screen to ceiling; repairs were made to floor, and handrails were placed at each entrance. In the caretaker's quarters, two windows were made in north gable, transom fanlights were put in over doors, the plastering was made good and the rooms were painted and papered.

Work supervised by Wm. Bishop, inspector of Dominion buildings, Nova Scotia.

## WESTVILLE.

PUBLIC BUILDING.

New flashings were laid to parapet wall; the copper cornice was repaired; broken brick was removed and replaced by new; the foundation masonry was pointed, and some broken sections in furnaces were removed and replaced by new ones.

Work supervised by Wm. Bishop, inspector of Dominion buildings, Nova Scotia.

## WINDSOR.

PUBLIC BUILDING.

A clock tower was constructed; the walls and ceilings of the post office and Customs offices were cleaned and tinted, and the woodwork cleaned and varnished, and the entrance doors were painted and grained.

Work supervised by Wm. Bishop, inspector of Dominion buildings, Nova Scotia.

## WOLFVILLE.

PUBLIC BUILDING.

This building, which was described in my report of last year, is still in process of construction.

Plans, etc., prepared by this department.

Clerk of works, Clarence H. Borden.

Contractor, A. Hood.

## YARMOUTH.

PUBLIC BUILDING.

The chimneys were pointed, the galvanized iron of roof covering, as also the outside doors, windows, conductors, etc., were painted, etc., and repairs were effected to clock tower.

Work supervised by Wm. Bishop, inspector of Dominion buildings, Nova Scotia.

## PROVINCE OF PRINCE EDWARD ISLAND.

### CHARLOTTETOWN.

#### DOMINION BUILDING.

Three ornamental lamp posts and lamps were put up and connected in grounds; the Customs offices were cleaned, painted and tinted; a private office was fitted up, cleaned, tinted, painted, newly furnished and had a lavatory, gas connection, painting, etc., complete; two storm windows were supplied; the tile flooring was repaired; the street letter and parcel boxes were repainted, and repairs were made to linoleum, glazing, etc.,

The grounds about the building were tended and improved.

The work was done under the supervision of J. J. McDuff, superintendent of public buildings, Prince Edward Island.

#### OLD BANK OF COMMERCE BUILDING.

This building which is situated on town lot No. 48 was purchased by the Government on 17th June, 1910. A new hot-water heating furnace was set up and connected; the mains in basement were cased; new copper flashing, eaves, gutters and conductors were furnished; the external brick was extensively repaired and painted; a drip stone, chair cushion, a radiator and a circular iron grating were supplied, and repairs were made to flagstaff, slates, locks, windows and glazing.

Work supervised by J. J. McDuff, superintendent, Dominion buildings, Prince Edward Island.

### MONTAGUE.

#### PUBLIC BUILDING.

A hardwood floor was laid in post office working room and public lobby; improvements to letter boxes were made and the interior and exterior woodwork, including the long room floor, and the heating coils were painted and some varnishing done.

Work supervised by D. H. Waterbury, superintendent, Dominion buildings, New Brunswick.

### SOURIS.

#### PUBLIC BUILDING.

Copper eaves, gutter and conductors were supplied; window shades, a sorting table, two oak doors, two buffers, two thresholds and three drip stones were provided, and the fence was cleaned and painted.

Work supervised by J. J. McDuff, superintendent, Dominion buildings, Prince Edward Island.

### SUMMERSIDE.

#### ARMOURY.

The construction of this building, which was described in my report of last year, is completed.

Plans, etc., prepared by this department.

Clerks of works, M. MacLeod.

Contractor, M. F. Schurman & Co

### TIGNISH.

PUBLIC BUILDING.

The construction of this building, a description of which is contained in last year's report, is completed.

Plans, etc., prepared by this department.

Clerk of works, Frank S. Gaudet.

Contractor, John M. Clark.

## PROVINCE OF NEW BRUNSWICK.

### BATHURST.

PUBLIC BUILDING.

The barge board around the tower was renewed, as also the copper lining of water tanks; door springs and checks were supplied and repairs were made to Customs safe, tower clock, boiler, plumbing, woodwork and post office fixtures.

Work done under the supervision of D. H. Waterbury, superintendent of public buildings, New Brunswick.

### CAMPBELLTON.

PUBLIC BUILDING.

This building, which was described in a previous report, is completed.

Plans, etc., prepared by this department.

Clerk of works, John Quinn.

Contractor, James Reid.

The temporary post office and the caretaker's quarters were sold by public auction.

Work done under the supervision of D. H. Waterbury, superintendent of public buildings, New Brunswick.

### CHATHAM.

PUBLIC BUILDING.

The lot adjoining the public building, purchased as a site for the addition thereto, was cleared up, had the buildings removed therefrom and was fenced.

Work done under the supervision of D. H. Waterbury, superintendent of public buildings, New Brunswick.

MIDDLE ISLAND QUARANTINE.

Additional improvements to the cellar drain were effected, under the supervision of D. H. Waterbury, superintendent of public buildings, New Brunswick.

### FAIRVILLE.

PUBLIC BUILDING.

The construction of this building, which was described in my last year's report, is completed.

Plans, etc., prepared by this department.

Clerk of works, Murray W. Long.

Contractor, R. A. Corbett.

## FREDERICTON.

### PUBLIC BUILDING.

Improvements were effected to the postmaster's office and extension; a desk, chairs and stools were supplied the collector of Customs, and desk and filing sections to the postmaster, and repairs were made to roof, heating and woodwork.

Work supervised by D. H. Waterbury, superintendent of public buildings, New Brunswick.

### IMMIGRATION OFFICE.

This is rented premises. These offices were extensively remodelled and had heating, plumbing, furniture, etc., installed, under the supervision of D. H. Waterbury, superintendent of public buildings, New Brunswick.

## GRAND FALLS.

### PUBLIC BUILDING.

The construction of this building which was described in my report of last year, is completed.

Plans, etc., prepared by the department.

Clerk of works, T. C. Dixon.

Contractors, Powers and Brewer.

## HARTLAND.

### PUBLIC BUILDING.

This building, which was recently erected, was supplied with a turret clock and with an acetylene lighting plant, under the supervision of D. H. Waterbury, superintendent of Dominion buildings, New Brunswick.

## HILLSBORO.

### PUBLIC BUILDING.

The construction of this building, which was described in my report of last year, is completed.

Plans, etc., prepared by this department.

Supervising architect, W. E. Reid.

Clerk of works, Beecher Steeves.

Contractor, O. J. Dunham.

## MARYSVILLE.

### PUBLIC BUILDING.

Repairs were made to roof, heating, plumbing and drains.

Work done under the supervision of D. H. Waterbury, superintendent of public buildings, New Brunswick.

## MONCTON.

### PUBLIC BUILDING.

An iron bracket was supplied for, and some repairs made to, flagstaff, under the supervision of D. H. Waterbury, superintendent of public buildings, New Brunswick.

## NEWCASTLE.

### PUBLIC BUILDING.

The entrance gates to yard were painted and repairs were effected to post office letter boxes and heating apparatus.

Work done under the supervision of D. H. Waterbury, superintendent of public buildings, New Brunswick.

## RICHIBUCTO.

### PUBLIC BUILDING.

The masonry was pointed; window screens were supplied; the deck roof was repaired and pitched; repairs were made to chimney; locks were supplied, and painting done.

Work done under the supervision of D. H. Waterbury, superintendent of public buildings, New Brunswick.

## ST. JOHN.

### QUARANTINE STATION—PARTRIDGE ISLAND.

Four new buildings are under construction.

Several of the buildings at the station were reshingled, repaired and repainted; mantles, grates and hearths were installed; extension ladders were supplied; heating apparatus was repaired and had new grate bars, smoke pipe, etc., and repairs and grading were done to roads, and repairs made to boat.

Work done under the supervision of D. H. Waterbury, superintendent of public buildings, New Brunswick.

### ARMOURY.

This building, which was described in a previous report, is under construction.

Plans, etc., prepared by this department.

Contractor, Michael Sullivan.

Architect in charge, A. H. Mott.

Clerk of works, Neil Brodie.

### IMMIGRATION BUILDING.

Further partitions were run on upper floor to make additional rooms for immigrants; a new toilet room, with sink, lavatory bowls and closets was constructed; iron cages for C. P. R. ticket offices were erected; window and shelves were built in ticket office; brushes, window shades, engineers' stoves and lamps were supplied; water conductors were repaired; kitchens and cook's rooms were cleaned and painted; some furniture, linoleum, rugs, window shades and hose were supplied; some glazing was done, and repairs were effected to plumbing, joinery, ranges, electric bells, lighting and glazing.

Work done under the supervision of D. H. Waterbury, superintendent of public buildings, New Brunswick.

### IMMIGRATION HOSPITAL.

Small plumbing repairs and repairs to sewer were effected; the roof vent pipes were protected and the furniture, hospital beds, etc., were removed to the immigration building, as the hospital was to be sold by auction.

Work done under the supervision of D. H. Waterbury, superintendent of public buildings, New Brunswick.

CUSTOM HOUSE.

The entire exterior surface of the outside walls of the building was cleaned by the sand blast process; some additional portions of the building were wired and lighted by electricity; the asphalt floor of firing room was renewed; portions of the interior were cleaned, tinted, painted and varnished; a copper extension was made from one of the chimneys; the hydraulic hoist was overhauled; halyards and linoleum were supplied, and repairs were made to heating apparatus, lighting, plastering, flags, lavatories, tanks, transformers, batteries, bells, telephones, speaking tubes, chimney top, clocks, furniture, furnaces and heating. Windows were taken off, cleaned and replaced, and snow, ashes and rubbish were removed.

Work supervised by D. H. Waterbury, superintendent of public buildings, New Brunswick.

NEW POST OFFICE BUILDING.

A contract was entered into on February 3, 1913, for the construction of this building on a plot of ground fronting on Prince William street and reaching back to Canterbury street. The building has a frontage of 161 feet by a depth of 107 feet, which depth does not extend beyond basement, the ground floor accommodation being 10 feet less, admitting of a glass-covered area to basement, measuring 10 feet by the breadth of the building, excepting where the projection of the freight elevator interrupts it. Projecting from the rear of the building is an adjunct, 33 feet by 12 feet, for the accommodation of the freight elevator. The area of the first and second floors is reduced by the omission of 50 feet by 30 feet of right rear angle and of 25 feet by 30 feet of left rear angle, the ground floor below them being roofed and skylighted, and a further reduction of 25 feet in depth of the rear, excepting a narrow passage to an upward continuation of the elevator adjunct, is made of the third floor area.

The building has a sandstone front, with side and rear walls of brick, the framework and stairs of iron, and the floors, roof and partitions of cement and iron.

Heating is by steam, and lighting by electricity.

Plans and specification prepared by this department.

Resident architect, C. E. Fairweather.

Contractors, Rhodes, Curry & Co.

POST OFFICE.

The external surface of the outside walls was cleaned by the sand blast process; a revolving door was supplied and hung at entrance; the partition in attic was extended; a considerable portion of the interior was cleaned, tinted and painted; furniture was supplied the post office inspector's office and the office of railway mail service; the tables in newspaper room and registry were zinc-covered; the fixtures in postal parcels office were removed and replaced; snow shovels, globe valves, iron pipe, tungsten lamps, sweeping compound, electric lamps, ash barrels, flags, door springs, brushes, locks, gas tips and unions supplied; the three closets in post office inspector's flat were taken down, put in good order and some renewals made; letter boxes were renumbered; street letter boxes were repainted; the electric clock illuminated, and other clock had attention; trucks were repaired and repainted, and repairs were effected to doors, ironmongery, stamping machine, furniture, fittings, plumbing, joinery, wiring, lights, batteries, trucks, hoist, glazing, speaking tubes, telephones, stamping machine, bells, etc. A hardwood floor was laid in newspaper flat and a platform in Customs department renewed.

Work done under the supervision of D. H. Waterbury, superintendent of public buildings, New Brunswick.

SAVINGS BANK.

The external surface of the outside walls was cleaned by the sand blast process; the flagpole was taken down, repaired and re-erected; a heavy grill door was put in; the vault was cleaned and partitioned; electric bells were installed; brass plates and halyards were supplied; windows were repaired and re-corded, and repairs were made to furniture, sewer, concrete floor and glazing. A steel and wire-mesh covered cage was installed for cashier.

Work done under the supervision of D. H. Waterbury, superintendent of public buildings, New Brunswick.

## ST. JOHN WEST.

POST OFFICE.

New closets were put in and pipes in basement renewed; minor repairs were made to joinery, and there were supplied electric lamps, sash cord and electric lights.

Work supervised by D. H. Waterbury, superintendent of public buildings, New Brunswick.

## ST. STEPHEN.

PUBLIC BUILDING.

Additional hot-water boiler, bath, sinks, lavatory basins and incidental works were installed.

Work supervised by D. H. Waterbury, superintendent of public buildings, New Brunswick.

## SUSSEX.

PUBLIC BUILDING.

The floors were patched and repairs were made to roof, eaves, heating apparatus, safe and woodwork.

Work supervised by D. H. Waterbury, superintendent of public buildings, New Brunswick.

## TRACADIE LAZARETTO.

RESIDENCE FOR MEDICAL SUPERINTENDENT.

On October 15, 1912, a contract was entered into for the construction of this building. It is a wooden two stories and attic building, on a stone basement, consisting of a main portion 30 by 36 and a 20 by 16 adjunct in rear. A verandah on the ground floor at the right anterior corner, and a gallery along the left side of the adjunct. The basement has a cement floor, but the remaining floors, the partitions, stairs and roof are of wood; the chimney and fireplace of brick. The heating is by hot water.

The basement contains furnace room, laundry, two rooms for coal, a stairway hall and three rooms for storage; on the ground floor, an office, a hall, a living room, a dining room, a pantry and a kitchen; the first floor, a stairway hall, four bedrooms and a bathroom, and the attic is unfinished.

Plans, etc., prepared by the department.

Contractors, Geo. Eddy & Co.

## WOODSTOCK.

PUBLIC BUILDING.

Screen doors, window screens, nest of drawers, electric lamps, rubber matting and furniture were supplied; the electric wiring was improved; kick plates were put on

doors of entrances, and repairs were made to clock, safe lock, doors, letter boxes and letter drawers.

Work supervised by D. H. Waterbury, superintendent of public buildings, New Brunswick.

## PROVINCE OF QUEBEC.

### ARTHABASKA.

PUBLIC BUILDING.

This building, a description of which was contained in a previous report, is completed.

Plans, etc., prepared by this department.
Clerk of works, George Spénard.
Contractors, Paquet & Godbout.

### FRASERVILLE.

ARMOURY.

The building, which was described in a previous report, is completed.
Plans, etc., prepared by this department.
Clerk of works, J. N. Anctil.
Contractor, Philippe Dumont.

### LEVIS.

ARMOURY.

This building, which was described in my report of last year, is still in process of construction.

Heating is by hot water and lighting by electricity.
Plans, etc., prepared by this department.
Clerk of works, N. Gosselin.
Contractors, The Ideal Construction Co.

PUBLIC BUILDING.

The interior woodwork of the ground and first floors was cleaned and painted, the walls and ceilings cleaned and tinted; repairs were effected to roof, plumbing, joinery and heating furnaces.

Work done under the supervision of A. R. Décary, resident engineer, Quebec, P.Q.

### MARIEVILLE.

PUBLIC BUILDING.

This building, which was described in my report of last year, is completed.
Plans, etc., prepared by this department.
Clerk of works, Avila Carreau.
Contractors, E. and R. Lachance.

## MEGANTIC.

### PUBLIC BUILDING.

This building, which was described in a previous report, is still in process of construction.

Plans, etc., prepared by this department.

Contractors, Paquet & Godbout.

## MONTREAL.

### DETENTION HOSPITAL.

A contract for the construction of this building was entered into January 3, 1913. It is to be a two stories and basement brick building with stone dressing, measuring on plan, 46 feet 6 inches frontage, by 119 feet 2 inches in depth. The partitions, floors and roof are of fireproof materials. The basement is to contain an officer's dining room, a cook's room, a kitchen, an ice house, a baggage room, three cells, two coal rooms, a disinfection room, a linen room and a store-room; on the ground floor are to be two detention rooms, two guard, a surgery, a general office, two rooms for repatriation officer, three toilet and bath rooms, and one room each for immigration agent, medical officer, comptroller of Chinese, an entrance vestibule, two stairway halls and a corridor from end to end of building; on the first floor, a family room, a matron's room, a British women's room, four bed-rooms, a bath room, two stairway halls and a corridor.

Plans, etc., prepared and work supervised by Ross and Macdonald, architects.

Contractor, C. E. Deakin.

### NEW EXAMINING WAREHOUSE.

This building, for the construction of which a contract was entered into October 15, 1912, is being erected on a site having frontage of 202 feet on Normand and McGill streets and 130 feet on Youville street. The walls have a stone facing on a steel frame and the building consists of eight stories and basement. The style is English renaissance, freely treated. The construction is of steel frame, stone veneer and fire-proof materials throughout.

The basement contains boiler room, fuel room, transformer room, six elevators which travel to seventh floor, and warehousing space; the ground floor, five offices on McGill street front, two toilet rooms, a stairway hall and warehouse space and, on each succeeding floor, first to seventh, there are two offices on McGill street front, two toilet rooms on Normand street front, one large examining room in middle, and at each end one large examining room 64 feet by the breadth of the building.

Heating by steam, lighting by electricity.

Plans, etc., prepared by this department.

Resident architect, A. H. Lapierre.

Contractors, the P. Lyall & Sons Construction Co.

### EASTERN POSTAL STATION 'C.'

This building, which was described in my report of last year, is still in process of construction.

Plans and specifications prepared and work supervised by Joseph Perrault, architect, Montreal, P.Q.

Contractors, G. Séguin and Guindon.

## QUEBEC.

### CITADEL—HEADQUARTERS.

The flagpole was repaired and had a new halyard, and minor repairs were made to plumbing, under the supervision of A. R. Décary, district engineer, Quebec, P.Q.

### CUSTOM HOUSE—RESTORATION.

This work, which has been described in a previous report, is completed and occupied.

### DETENTION HOSPITAL.

Ninety-six chairs, one safe, seven tables, one lounge and one desk and chair were supplied; the posts, openings and gratings were painted, and repairs were effected to heating furnaces, joinery, water pipes, cement floor, plastering, fences, gates and platforms; all under the supervision of A. R. Décary, district engineer, Quebec, P.Q.

### EXAMINING WAREHOUSE.

The footpaths about the building were relaid with a stone curb. Repairs were made to heating system, water pipes and windows, and the external surface of masonry was repointed.

Work supervised by A. R. Décary, district engineer, Quebec, P.Q.

### IMMIGRATION BUILDING.

Repairs were made to plumbing, joinery and electric lighting.

Work supervised by A. R. Décary, district engineer, Quebec, P.Q.

### LOUISE EMBANKMENT—IMMIGRATION BUILDING.

This building, which was described in my report of last year, is still in process of construction.

Plans, etc., prepared by this department.

Resident architect, J. R. Oullette.

Contractor, Chas. Edward Deakin.

### MARINE BUILDING.

The office of the marine agent was provided with two desk chairs, two desks and filing cabinets, under the supervision of A. R. Décary, district engineer, Quebec, P.Q.

### OBSERVATORY.

Repairs to foundation, windows, roof, woodwork and plumbing were effected under the supervision of A. R. Décary, district engineer, Quebec, P.Q.

### POST OFFICE.

The roof and outside woodwork were painted as also the interior of the ground floor and the offices of the Hon. the Minister, the latter having the walls papered; the hot water heater, the elevator cables and the winter porch of the public entrance were renewed; general repairs were made to woodwork, windows, plumbing, electric lighting, etc., and furniture was supplied to the various offices.

Work supervised by A. R. Décary, district engineer, Quebec, P.Q.

POST OFFICE.—ADDITION AND ALTERATION.

A contract for the construction of these works was entered into March 3, 1913.

The present post office building, situated on the corner of Buade and Dufort streets, was commenced in 1870-71, and completed the following year. In 1893-4, a one-story addition, which is now to be removed, was built on the site of the proposed addition.

The alteration will comprise the removal of all the floors and partitions of the original building of the one-story addition, of the wooden mansard attic, of the bay of outside wall on ground floor containing the Buade street entrance, with the bay containing a window on either side of it, and the entrance bay, ground floor, on corner of Dufort and Buade streets. In place of this original Buade street entrance, there will be an entrance on the ground floor level, opening on a colonaded portico with steps to Buade street, and having underneath a vestibuled entrance from street level to basement. A window will replace the entrance removed from corner of Buade and Dufort streets. A new stone attic, similar to that of the new portion, will take the place of the wooden mansard attic.

The new addition is te be an extension of the original building along Buade street to Mountain hill, 57 feet by a depth at right angles along the cliff, from Buade street towards Durham terrace, 133 feet. The materials of the walls are to be limestone backed with brick, and the style a repetition of the work in the present building. Owing to the difference of level in the new portion, there is to be a sub-basement, but all the remaining stories are similar in number and level to those in the original building.

The sub-basement, which is confined to the new portion, contains a boiler room, a fan room, a motor room, a fuel room, and an elevator which travels from sub-basement to attic. The basement in the original building is to have the level of floor lowered, and is to contain a recreation room, a vestibuled entrance, a corridor and a lavatory room; the basement of the new portion, a workshop 50 feet by 85 feet, the elevator, a corridor, a stairway and the Customs postal room, which has a brick vault. The ground floor of the old portion is entirely devoted to working space, two brick vaults and public lobby; of the new portion, 91 feet by 46 feet is devoted to working space, and the remaining portion, which faces on Buade and Mountain hill, to elevator, staircase hall and assistant postmaster's rooms. An open colonnaded porch, with steps to street and having the basement vestibule under, is placed at Buade street entrance. On the first floor of the old portion, are the postmaster's office, superintendent of mail service office, case examiners' office, general offices of the railway mail staff, and toilet rooms, and of the new portion 91 feet by 46 feet of the rear are the general offices of the inspector's staff, and the remaining space is occupied by the inspector, the assistant inspector, the elevator and the stairway hall; this arrangement of elevator, stairway hall, lavatories and w.cs., is repeated on each floor upward to attic and, in addition, on the second floor, there is a women's lavatory as well.

On the second floor, the old portion is unappropriated; in the new portion on the Buade street end, are the Minister's room, ante-room and secretary's room, the remaining portion containing six offices, a record room, a draughting room, a filing room and two brick vaults.

On the third floor, excepting a suite of rooms for the Minister at the Buade street end of the new portion, a suite of apartments for the janitor at the Dufort street end of the old portion and the lavatories, the attic is unappropriated.

The middle of the new portion is surmounted by an imposing octagonal dome, having a base 50 feet square.

The interior walls, partitions and floors are of steel, concrete and terra cotta.

Plans, etc., prepared by this department.

Resident architect, E. M. Talbot.

Contractors, Villeneuve, Bossé, Banks and Boivin.

ST. ROCH'S POST OFFICE.

A wooden fence, with two iron gates, was erected on the northeast side of the building; a storm door was provided at the private entrance door; the floor and the grating of verandah were painted, and repairs were made to water pipes, all under the supervision of A. R. Décary, district engineer, Quebec, P.Q.

## RIGAUD.

POST OFFICE.

This building, which was described in a previous report, is completed.

Plans, etc., prepared and work supervised by Ludger Lemieux, architect, Montreal, P.Q.

Contractor, Théo. Bélanger.

## ROBERVAL.

PUBLIC BUILDING.

This building, which was described in a previous report, is still in process of construction.

Plans, etc., prepared by this department.

Clerk of works, Alphonse Parent.

Contractor, L. B. Lachance.

## ROCK ISLAND.

PUBLIC BUILDING.

This building, which was described in my report of last year, is completed.

Plans, etc., prepared by this department.

Clerk of works, B. C. Drew.

Contractor, N. A. Beach.

## SHAWENEGAN FALLS.

PUBLIC BUILDING.

This building, which was described in my report of last year, is still in process of construction.

Plans and specifications prepared and work supervised by Asselin and Augé, architects.

Contractor, A. Durand.

## STE. THERESE.

PUBLIC BUILDING.

On February 4, 1913, a contract was entered into for the construction of this building, which is to be erected on the west side of Church street, with a frontage thereon of 39 feet by a depth of 56 feet, of which 14 feet at the rear is of a reduced breadth of 23 feet. It is to be a one and a half story brick building, on a stone basement, having a four stories and basement tower included in northwestern angle. The basement is designed to contain a furnace room, a fuel room, two storage rooms and a stairway hall; on the ground floor is to be the post office, two Inland Revenue offices, a lavatory, a mail entrance, a staircase hall and a vestibule; on the first floor, three Inland Revenue offices, an Inland Revenue laboratory, a bath room, a hall, a stairs hall and five living rooms.

Heating is by hot water; drainage to a septic tank in yard. The basement is to be floored in cement and the lavatories, toilet rooms, w.c.'s and a mail lobby in tile; the basement partitions are to be brick, and the remaining floors, the partitions and stairs, of wood.

Plans and specifications prepared by this department.

Clerk of works, Hector Leboeuf.

Contractors, Jos. Lafond and O. B. Lafleur & Fils.

### ST. LAMBERT.

PUBLIC BUILDING.

This building, which was described in my report of last year, is still in process of construction.

Plans, etc., prepared by this department.

Contractor, Eugène Patenaude.

### SOREL.

PUBLIC BUILDING.

The heating furnaces were altered in position, had new headers and had the mains therefrom altered, under the supervision of Wm. Mansfield, inspector of heating and plumbing.

### VALLEYFIELD.

PUBLIC BUILDING.

The furnaces were altered in position and had new headers, and the mains in basement were altered.

Work supervised by Wm. Mansfield, inspector of heating and plumbing.

## PROVINCE OF ONTARIO.

### AMHERSTBURG.

PUBLIC BUILDING.

The original hot-water heating furnace was removed, twin round cast-iron furnaces were substituted, the mains altered to increase the efficiency, and the floor of the furnace room was concreted. These furnaces were removed from Chatham, Ont., public building. A new sink was fitted up in caretaker's apartments, concrete front steps were constructed, a new flag pole erected and a number of locks and bolts put on doors.

Work supervised by Thos. A. Hastings, clerk of works, Toronto, Ont., and by Wm. Mansfield, inspector of heating and plumbing, Ottawa.

### ATHENS.

PUBLIC BUILDING.

This building, for the construction of which a contract was entered into January 12, 1912, is in course of erection. It is situated on the corner of Main and Elgin streets, has two brick stories on a stone basement, measuring on plans 38 by 36 feet,

and includes a five stories and basement tower on the right anterior angle of the building. The ground floor contains post office, stairway hall, vestibule and mail lobby; the first floor, five living rooms, a stairway hall, two toilet rooms and a bath room—one in mezzanine, and the basement, a furnace room, a fuel room, storage, a stairway hall and a pump room. The basement floor is cement, and that of the stairway hall, public lobby, vestibule and toilet rooms of tile; the basement partitions are brick, but the remaining floors and partitions, as also the stairway and roof, are of wood.

The french drains are taken to a hogshead in yard and the soil and waste drains to a septic tank in yard. The water service is from a well to a pneumatic tank.

Heating is to be by hot water.

Plans, etc., prepared by this department.

Clerk of works, W. G. Johnson.

Contractor, John Dillon.

## BARRIE.

### PUBLIC BUILDING—ADDITION.

On November 2, 1912, a contract was entered into for the construction of an addition, 12 feet deep by 40 feet long, two stories and basement, at the rear of the middle of the working space of the post office. In the basement, a pier is placed midway of the length to support a column on ground floor which in turn supports iron beams which take the weight of the first floor wall above, the wall on ground floor separating the addition, and main building having been removed. The first floor portion consists of a colonnaded balcony covered with a flat roof, which forms the floor of an uncovered balcony.

Thomas Rogers, clerk of works.

W. A. Tom, contractor.

## BELLEVILLE.

### PUBLIC BUILDING.

The old footpaths were taken up and new footpaths laid about building; hardwood floors were laid in Customs department and in Inland Revenue department offices; cork carpet was laid in postmaster's and collector of Customs' offices; the deck roof was re-covered; metal ceiling was put in express parcels' office, and repairs were made to valves, etc.

Work done under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

## BERLIN.

### PUBLIC BUILDING.

A footpath was laid on Benton street with stone curb; window screens were supplied the Inland Revenue department and gas department, and shelving for the customhouse.

Work done under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

## BRAMPTON.

### PUBLIC BUILDING.

Changes were made in screen, involving the installation of some new letter boxes; the box screen and furniture were cleaned and revarnished, and the windows and entrance doors painted.

Work done under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

## BRANTFORD.

### PUBLIC BUILDING.

Four chairs and an office clock were supplied to the Customs, under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

### NEW PUBLIC BUILDING.

On March 6, 1913, a contract was entered into for the construction of this building, facing Dalhousie street, having Queen street on the right and a lane on the left. The building measures 125 feet frontage by 108 feet depth, and has a court-yard in the middle of rear, 46 feet wide by 26 feet in depth on ground and first floors, but 73 feet depth on first and second floors. There is a cement stone-faced basement, brick on ground, first and second stories; the street elevations and the ground floor of the remainder, except in the courtyard, is faced throughout with cut stone; the remaining brick walls having stone dressing. On the right anterior angle there is a six stories and basement tower. The internal construction of floors and partitions is mainly steel and concrete. The floor of the public lobby, ground floor, is laid in marble slabs with panels of marble mosaic, and the wall of the lobby has a marble dado. The floors of all toilet rooms, upstairs hall and corridors, are laid in terrazza.

The basement contains the boiler room, storage rooms, transformer room, carriers' room and toilet room (a portion is unexcavated); the ground floor, the post office, examining warehouse, weights and measures, gas inspector, mail lobby, elevator, brick vault, stairs and vestibules; the first floor, the Customs long room, Customs records room, Indian superintendent's room, Indian waiting room, eight offices, three toilet rooms, two brick vaults, corridors, three stairways and one elevator; the second floor, the Inland Revenue long room, laboratory, two toilet rooms, three stairways, five living rooms, corridors and a bath room.

Heating is by hot water, and lighting by electricity.

Plans, etc., prepared by this department.

Geo. W. Hall, resident architect.

P. H. Secord and Son, contractors.

## BROCKVILLE.

### PUBLIC BUILDING.

The Inland Revenue building in yard was altered, new partitions, floor, etc., provided, a boiler pit built and a new furnace and hot-water heating apparatus supplied.

Work done under the supervision of Wm. Mansfield, inspector of heating and plumbing.

## CHATHAM.

### PUBLIC BUILDING.

The two twin round cast-iron hot-water furnaces were removed to the Amherstburg public building, and two similar but larger furnaces set up and connected with the heating mains. A new main was put in; some of the risers were altered; a brick coal bin was constructed and the basement floor laid in concrete, under the supervision of Wm. Mansfield, inspector of heating and plumbing.

The outside woodwork and ironwork were painted two coats, and a gas heater, a partition, a number of doors and some shelving supplied to the Customs, under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

## CHESLEY.

PUBLIC BUILDING.

This building, which was described in my report of last year, is still in process of construction.

Plans, etc, prepared by this department.

Contractors, Gilpin Bros.

## COBOURG.

PUBLIC BUILDING.

The walls and ceilings of the various offices were cleaned and tinted, or papered, and the woodwork varnished; the box screen was altered and boxes and other fittings installed; linoleum was laid in Customs long room; changes were made in water pipe, and new hose supplied, all under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

## CLINTON.

PUBLIC BUILDING.

The old footpath was removed and a new one laid, under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

## CORNWALL.

PUBLIC BUILDING.

The original hot-water heating furnace was removed and twin round cast-iron furnaces substituted, some changes were made in basement mains; some additional radiators were put in, the coils throughout were repaired and the furnace room floored in concrete.

Work done under the supervision of Wm. Mansfield, inspector of heating and plumbing.

## DRESDEN.

PUBLIC BUILDING.

This building, which was described in my report of last year, is completed.

## DUNDAS.

PUBLIC BUILDING.

This building, which was described in my last year's report, is still in process of construction.

Plans, etc., prepared by this department.

Clerk of works, James Watson.

Contractors, Nagle and Mills.

## ELORA.

PUBLIC BUILDING.

An electric pump and one set of grates for furnaces were supplied under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

## ESSEX.

PUBLIC BUILDING.

This building, which was described in my report of last year, is completed.
Plans, etc., prepared by this department.
Clerk of works, John Laing.
Contractor, Geo. A. Proctor.

## FORT WILLIAM.

PUBLIC BUILDING.

Alterations of interior fittings and repairs to plastering and vault door were effected, and some new electric lights were supplied, all under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

## GALT.

PUBLIC BUILDING.

The stone retaining wall, which was washed away by the river flood, was rebuilt in concrete. The caretaker's quarters were papered and painted.
Work supervised by Thos. A. Hastings, clerk of works, Toronto, Ont.

## GANANOQUE.

PUBLIC BUILDING.

On 23rd August, 1912, a contract was entered into for the construction of this building, on the corner of King and Stone streets. It is to be a two-story brick building, with stone dressings on a stone basement and surmounted by a wooden mansard, having, in rear, a one-story adjunct of same material, measuring on plan, 32 feet by 42 feet, and a four-story and basement tower in the right anterior angle.

The basement is to contain a furnace room, a fuel room, a stores room, a staircase hall and a vestibule; the ground floor, the post office, a stairway hall, a vestibule, a mail lobby, a brick vault and two toilet rooms; the first floor, a stairway hall, seven rooms and a corridor; the second floor, eight rooms, a corridor, a bath and toilet room and a stairway hall. The basement partitions are to be brick, the basement floor cement concrete, and those of the vestibule, stairway hall, public lobby, ground floor, mail entrance, lavatories and toilet rooms are to be of tile.

Heating is by hot water, and lighting by electricity.
Plans and specification prepared by the department.
Clerk of works, W. N. Rogers.
Contractor, E. A. Bleakney.

## GLENCOE.

PUBLIC BUILDING.

The entrance doors were cleaned and oiled, the water closet was repaired, and general minor repairs done, under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

## GODERICH.

POST OFFICE—ADDITION.

Two original furnaces were removed and replaced by new twin round cast-iron hot water heating furnaces; some mains were enlarged, some risers altered and the

floor of furnace room laid in concrete. Work done under the supervision of Wm. Mansfield, inspector of heating and plumbing.

New fittings were installed in vault; the mail platform was enlarged; porches, fire-escape, etc., were painted; the electric lighting was altered, and repairs made to vault doors.

Work done under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

## GUELPH.

### PUBLIC BUILDING.

A new set of post office fittings was put in, including a revolving door in main entrance and new electric lighting; the walls and ceilings were cleaned and tinted in Inland Revenue, the ceilings tinted and walls papered in caretaker's quarters, the woodwork grained and varnished in caretaker's quarters and Inland Revenue offices; 20 coils bronzed in Customs offices and 10 in caretaker's apartments, and the front door varnished.

Work executed under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

## HAMILTON.

### PUBLIC BUILDING.

The Inland Revenue offices and corridors throughout and the long room, halls and staircase of the Customs were cleaned, tinted and painted and had floors treated; the canopy over express entrance was repaired; the entrance doors were cleaned and varnished; the floors of Customs warehouse and Customs examining warehouse were repaired; two stools were supplied and a new tap in kitchen and three sets of shaking and dumping grates for heating furnaces.

For the post office, additional tables and electric lights and wiring for the Christmas expansion of the office work, ten electric fans, insecticide and sprayer, six letter carriers' stools, new stamping machine motor, slop sink, uniform for elevator attendant, a tile floor in lobby and a galvanized iron awning outside entrance were supplied. A new freight elevator for the post office was installed; a motor was rewound; an old stamping machine motor was rewound, and door springs, door checks, door locks, etc., were supplied, as well as the ordinary and usual repairs made to the buildings, furniture and fittings.

The street letter and newspaper boxes were painted.

Work supervised by Thos. A. Hastings, clerk of works, Toronto, Ont.

### IMMIGRATION OFFICE.

One desk, seven chairs, one table and some minor articles were supplied, under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

### POSTAL STATION 'B.'

A new wicket was placed in delivery screen; the counter was lengthened; two Tucker alarm tills were fitted up; the front door was repaired, and fastenings were placed on rear windows.

Work done under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

### GENERALLY.

One desk was supplied the Inland Revenue officer at Hamilton distillery; two trucks were supplied and a number of others painted at Grand Trunk Railway station,

and the front of the custom house and the gas and electric inspection offices, were painted.

Work supervised by Thos. A. Hastings, clerk of works, Toronto, Ont.

## HARRISTON.

### PUBLIC BUILDING.

This building, which was described in my report of last year, is completed and a tower clock has been installed.

Plans, etc., prepared by this department.

Resident architect, Geo. Gray.

Contractor, Geo. A. Proctor.

## INGERSOLL.

### PUBLIC BUILDING.

Two rooms in caretaker's quarters were repapered, the external masonry and brickwork were pointed and the plastering of the building patched.

Work done under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

## KEMPTVILLE.

### PUBLIC BUILDING.

On 21st August, 1912, a contract for the construction of this building, on the north side of Prescott street, and west side of Reuben street, was entered into.

It is a one and a half stories and basement building, measuring 39 feet by 42 feet on plan, and includes a four stories and basement tower on the southwest angle. The external walls and the basement floor and partitions are of concrete, the flooring of public lobby, mail entrance, bath room, vestibule and lavatory is tiles, and the remaining floors and partitions, as also the stairs and roof, are of wood. Heating is by hot water, lighting by electricity and water supply by a power pump and pneumatic tank in basement.

In the basement are the furnace room, fuel room, weights and measures office, stairway hall, janitor's cellar and passage; on the ground floor the post office, vestibule mail entrance and stairway hall, and, on the first floor, the Inland Revenue office, stairway hall, lavatory, hall, pantry, bath room and five living rooms.

Plans and specifications prepared by the department.

Clerk of works, J. M. Guest.

Contractors, Dominion Concrete Company, Limited.

## KINCARDINE.

### PUBLIC BUILDING.

The caretaker's quarters were decorated, and there were supplied two door spring checks and a paper burner.

Work done under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

## KINGSTON.

### POST OFFICE—ADDITIONS AND ALTERATIONS.

On 15th September, 1912, a contract for the construction of an addition, measuring 34 feet by the full breadth of the building (57 feet), was entered into. The addi-

tion is of a like number of stories and has the external details of the original building repeated throughout. The ground floor is an addition to the working space of the post office; the first floor consists of an inspector's examining room, a store room, a sorting room, two toilet rooms and a corridor. In the original portions of the ground floor, a rearrangement of the post office has called for new screens, new fittings and two brick safes; in the basement and on the first floor, new partitions were put in and, on the first floor, a brick safe. The original heating apparatus is in large part retained, new furnaces were set up and connected, in lieu of the original furnaces, which were removed, and the new addition heating mains connected thereto.

Plans prepared and work supervised by Wm. Newlands, architect.

Contractors, McKelvey and Birch.

## LEAMINGTON.

### PUBLIC BUILDING.

Minor articles of fittings and ironmongery were supplied under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

## LINDSAY.

### PUBLIC BUILDING.

The original pipe furnace was removed and twin round cast-iron furnaces installed; changes were made in mains; the heating coils throughout the building were repaired and additional radiation was fitted up in sorting room, under the supervision of Wm. Mansfield, inspector of heating and plumbing.

Some minor changes were made in the lighting; brushes, glass for counter and windows were supplied; the roof was repaired; the stone entrance steps were redressed, and two chairs were repaired, under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

## LISTOWELL.

### PUBLIC BUILDING.

The construction of this building, which was described in my report of last year, is completed.

## LONDON.

### CUSTOM HOUSE.

A large amount of cleaning, tinting and painting was done and the remainder is to be done during the following fiscal year; metal ceilings were put on in long room, weights and measures and corridors and lobby, ground floor; the ceilings of rooms were plastered; a stove was furnished for room in basement and a new concrete foot-path on Richmond street was laid, all under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

### POST OFFICE.

New fittings were erected in post office and basement; a canopy over mail entrance and a hood over letter receiver were put up; a number of floors were oiled; a partition was erected in basement; five desks, one wardrobe, three chairs and seventeen stools were supplied; additions were made to heating and plumbing, and new foot-paths were laid along the street fronts and up to entrances. All under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

MILITARY STORES BUILDING.

A smoke stack was erected for new addition.

Work done under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

## MIDLAND.

PUBLIC BUILDING.

On January 9, 1913, a contract was entered into for the construction of this building on King street, having Mary street on its right and a lane on its left. It is to be a two-story, basement and attic stone building, including a five stories and basement clock tower. It is to have 63 feet frontage, exclusive of a semi-octagonal projection, measuring 7 feet 2 inches at either end, by 43 feet deep. There is to be a one-story and unexcavated basement adjunct in rear, measuring 28 feet in breadth by 18 feet in depth.

The basement and ground floor partitions, with a number of those on first floor, are to be brick; the basement floor of cement concrete, and the floors of public lobby, toilet rooms, porch and vestibule are to be tiled; the remaining floors and partitions, as well as the stairs and roof, are to be of wood. The basement is to contain the furnace room, fuel room, staircase hall, store-room and brick vault; the ground floor, the main entrance porch, post office, staircase hall, two toilet rooms, porch, vestibule and brick vault, and, in the adjunct, the examining warehouse and mail lobby; on the first floor, the Customs long room, collector's office, two Customs offices, three Inland Revenue offices, a store-room, two brick vaults and two toilet rooms; in the attic, two offices, six living rooms, a toilet room, a bath room, a passage and a staircase hall.

Heating is by hot water, and lighting by electricity.

Plans and specification prepared by this department.

Richard Iles, clerk of works.

E. A. Bleakney, contractor.

## MITCHELL.

PUBLIC BUILDING.

This building, which was described in my report of last year, is completed and furnished with a tower clock.

Plans, etc., prepared by this department.

Clerk of works, Wm. Ryan.

Contractor, John Avery.

## MOUNT FOREST.

PUBLIC BUILDING.

This building, which was described in my report of last year, is completed.

## NIAGARA FALLS.

PUBLIC BUILDING.

The halls and stairways were cleaned and kalsomined; the iron roof and gutters were repaired and painted; decayed joists were renewed; a revolving entrance door was put in; two desks, two chairs, twelve stools, one mat, and linoleum in two rooms were supplied; the examining warehouse was wired and supplied with fixtures and lamps; the partitions in long room were changed; the old cornice taken down and renewed, and a new concrete roadway, as also a new concrete floor in basement, were laid. All under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

ARMOURIES.

This building, which was described in my last year's report, is nearly completed.
Plans, etc., prepared by this department.
Clerk of works, George Searle.
Contractor, A. B. Robertson.

## ORILLIA.

POST OFFICE.

A platform was erected at the entrance to examining warehouse; a new sink, additional post office boxes, additional lighting and some locks were furnished; the furnace was packed and covered with asbestos, and a paper burner was supplied. All under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

## OSHAWA.

PUBLIC BUILDING.

A tower clock was installed. Work supervised by Thos. A Hastings, clerk of works, Toronto, Ont.

## OTTAWA.

AGRICULTURE DEPARTMENT, 326-328 QUEEN STREET.

These premises are rented. The patent records were moved here from the Hopewell building on Lyon street, by the departmental staff.
John Shearer, superintendent.

AGRICULTURE DEPARTMENT, 66 QUEEN STREET.

These premises are rented for the publication branch. An unusually large amount of masonry was laid; a door broken out, a cement floor laid, terra cotta walls were built in vault; holes and cutting was done; tin signs supplied; repairs were made to plastering, cement work, masonry, furniture, glass, locks, checks, door steps, etc.; walls were cleaned, tinted and painted, woodwork painted, floors oiled and coils bronzed, by the departmental staff.
John Shearer, superintendent.

ARCHIVES BUILDING.—SUSSEX STREET.

Two hundred and ninety-five ornamental trees were planted in the grounds. Work executed by the departmental staff.
John Shearer, superintendent.

BIRK'S BUILDING.—SPARKS STREET.

Five wash basins were installed for the Public Works Department.
Work done by departmental staff.
John Shearer, superintendent.

CENTRAL EXPERIMENTAL FARM.

Additions to and alterations of No. 1 laboratory were effected; a new boiler was installed in conservatory, in place of one worn out and removed; lead-lined water pans were supplied for tobacco barn; the cow barn was wired for electric lighting, and the entire electric lighting system was remodelled; 950 feet of water mains, including

three hydrants, were laid as fire protection, and 1,050 feet of 12-inch main drain was laid. The usual and ordinary repairs were made.

Work done under the supervision of John Sharpe, clerk of works.

CENTRAL RAILWAY STATION.

The 2nd, 3rd and 4th flats of this building are leased for the use of the Railway Commission.

There were supplied to the Railway Commission, twelve electric fans, one drop light, two 'Deveau' telephone systems, two partitions, one plan case, shelving for one vault, one platform, two cabinets, one window deflector, three office tables and four chair cushions. The offices of the Board were renovated, and 800 yards of floor were washed and oiled.

Work done by the departmental staff.

John Shearer, superintendent.

CORRY BLOCK.—RIDEAU STREET.

These are rented premises; 6 rooms were cleaned, tinted and painted, and had floors treated, and radiators bronzed.

Work done by the departmental staff.

John Shearer, superintendent.

CUSTOM HOUSE.

This is a rented building at the corner of O'Connor and Sparks streets. A phone system was installed in two rooms; a quantity of shelving was set up; usual and ordinary works of repair were done, and some new lights wired for and furnished.

John Shearer, superintendent.

CUSTOM HOUSE—239 WELLINGTON STREET AND 14 VITTORIA STREET.

The Customs were removed from Sparks street and from Mackenzie avenue and located in these buildings, the various fittings being adapted, repaired, enlarged and otherwise made suitable for the new quarters; all the plumbing was overhauled, all bells and phone systems put in, and minor works of repair executed.

Work done by the departmental staff.

John Shearer, superintendent.

CUSTOM HOUSE—12 ALBERT STREET.

Repairs were made to plumbing, and some new work added by the departmental staff.

John Shearer, superintendent.

CUSTOM HOUSE—41 LYON STREET.

The plumbing of the laboratory was repaired and some cupboards and shelving, taken apart and removed from Mackenzie avenue, were put together here. Work done by the departmental staff.

John Shearer, superintendent.

EASTERN BLOCK.

The extension and addition, previously described, approaches completion; an addition is made to boiler house to admit of an additional boiler; a plenum system of mechanical ventilation is installed throughout the addition and also a small mechanical plenum system to ventilate the Privy Council chamber; a contract for

the steel lining and steel doors in the treasury vaults has been entered into; a small exhaust system of ventilation is fitted up in one of the branches of the Department of Indian Affairs, and the corridors throughout the original building repainted. There were nineteen rooms tinted, painted, had floors treated and coils bronzed, seven in the Department of Justice, five in the Secretary of State Department, four in the Privy Council Department, and four in the Department of Indian Affairs, besides one floor treated in the last named; two rooms in the Auditor General's Department were refloored in hardwood; eight electric fans were installed, three each in the Department of Indian Affairs and the Department of Secretary of State, and two in the Department of Justice; eight lavatory basins were fitted up and supplied, four in the Department of the Secretary of State, two in the Department of Justice and one each in the Departments of Indian Affairs and Privy Council; thirty-five drop lights were installed, ten for the Auditor General's Department, thirteen for the Department of Indian Affairs, four for the Privy Council Department, three for the Secretary of State, and three for the Department of Justice; twenty-three desk lights were installed, three for the Finance Department, eighteen for the Department of Indian Affairs and two for the Department of Justice; the Privy Council Department had installed two 4-light tungstoliers, the Finance Department three 5-light, one 4-light and one 1-light tungstoliers, the Department of the Secretary of State two 5-light tungstoliers, the Auditor General five 5-light and two 3-light tungstoliers, and the Department of Justice one 6-light and one 5-light tungstoliers; twenty-five brass rods and curtains were supplied, three each to the Department of Indian Affairs, Auditor General's Department and Privy Council Department, eleven to the Department of Finance, four to the Department of Justice and one to the Department of the Secretary of State; call bell systems were installed in the Auditor General's Department, Department of Justice and of the Secretary of State; an electric heater and a disc heater were supplied to the Auditor General's Department; fifteen signs were supplied, fourteen to the Department of Justice and one to the Department of Indian Affairs. Five rooms were wired for electric light in the Department of Justice, three rooms in the Privy Council Department had a telephone system supplied, five rooms in the Department of Justice were wired for light, and a desk phone was installed in the Auditor General's Department. The Auditor General's Department had ten feet lineal of panelled partition, forty feet of shelving, a drawer case of fifty drawers and one motor rewired; the Department of Justice had one new sink, one sink relined, six window deflectors, fifty-seven feet lineal of panelled partition, three desks, fifteen stands, two map racks, two covered doors, one counter, one tin box, one case of fifty-two drawers and two cupboards; the Department of Indian Affairs had two cupboards, one table, one fanlight, one screen, five cushions and the re-covering of three desks; the Privy Council Department had twenty-four newspaper files, one packing box, three covered doors, besides six re-covered and three tables re-covered, and the Department of Finance, two desks, twenty-one cupboards, one map cabinet, two glass-top partitions, one porch, one basket for grate, one new lavatory basin and five electric fans. There were a large number of furniture repairs, door checks, locks, keys, etc., as well as general repairs in masonry, bricklaying, painting, joinery, glazing, plumbing, steamfitting, drainage, roofing, etc.

John Shearer, superintendent.

FISHERIES EXHIBIT BUILDING, CORNER OF O'CONNOR AND QUEEN STREETS.

All the rooms were cleaned, tinted, painted, floor treated and coils bronzed; the grates were repaired and supplied with blowers, and the stoves and pipes were overhauled.

Work done by the departmental staff.

John Shearer, superintendent.

FRENCH TRANSLATORS' OFFICES, 75 VITTORIA STREET.

These offices were moved here from Sussex street.

GOVERNMENT HOUSE.

A new sitting-out room, with basement under, 93 feet by 22 feet, with 12-feet ceiling was built along the east side of the tennis court, for the better accommodation of guests at entertainments; the walls were painted blue and the room was fitted and furnished with carpets, curtains, blinds, sofas, tables, chairs, etc., etc.; the basement under was divided by wood partitions into sixteen cubicals for men servants' bedrooms.

A machine for sterilizing 150 gallons per hour of potable water with a 3,000 gallon storage cistern and a pair of duplex pumps were fitted up in boiler room and connected with a steam boiler which furnishes the steam to sterilize the contents of the water. After a short trial, the apparatus was found inadequate and a further plant of similar capacity was introduced. The installing of this plant required the removal of the china and glass room, excavation of basement floor 2 feet below old level and the laying of a cement floor, as well as extensive changes in the water service pipes throughout the house.

A new police guard-house, 29 feet 6 inches by 14 feet, divided into rooms, was built, fitted up with electric light and water and connected with an electric fire alarm system which was installed in the house at the same time.

An office for the Military Secretary's stenographer was fitted up in a portion of the china room and had speaking tubes and a dumb waiter put in.

The house verandah was overhauled and repaired and had twelve squares of new floor, new fascia, concrete bases under cast iron posts, new joists and painting throughout. Two twelve-inch chimney pots 12 feet high were added to greenhouse chimney. Two doors were made on iron stairway landings in wing, a door in ground floor corridor was removed and an open archway substituted. A new bath room was formed by dividing a w.c. The walls of the tennis court were double-sheeted on the inside; doors were opened between the tennis court basement and the basement under sitting-out room and the heating of the tennis court, and men's rooms under, underwent considerable alteration, including the removal of the furnace, the enlargement of the furnace room and the fitting in of two large cast-iron hot-water furnaces. The old transformer room under tennis court was removed and a new transformer room formed in another portion of basement, the new room fireproofed and fitted with new transformer and switchboard. The old open wiring in basement and ground floor throughout was removed and new wiring in conduits installed with new outlets, switches, etc. A number of the rooms in the wing were painted throughout; thirteen wardrobes and cupboards were made for old rooms formerly used by the men, and fourteen of the old cloak room cases were converted into wardrobes for the maids' rooms.

The skating rink was enlarged by the removal of the shelter at end of rink, lengthening the rink to 90 feet, adding 8,000 square feet to skating surface and requiring 6,300 cubic yards of filling to bring same up to level of original rink. A skating path, 165 feet by 6 feet, was graded to rink level and connects the two rinks. Iron posts, with wire netting between to prevent loss of puck in hockey, were placed at end of rink. A new two-story building 53 feet by 48 feet by 22 feet, was built to replace the old shelter for guests and skaters; the ground floor fitted with benches and chairs; the first floor with chairs, ottomans and refreshment tables; both floors coal stove heated. A wash-up room was built in rear of the first floor room for use in connection with the refreshment tables and to give the waiters easy access to the house. The band room was moved to the north-west corner of the rink and raised 4 feet higher than same. The walls of old greenhouse, 140 feet by 5 feet, were rebuilt and painted; the stairs to toboggan slide were repaired and strengthened; 100 lineal feet of new

parapet were built on north side of skating rink; a dumb waiter from kitchen to pantry was installed to take the place of old elevator.

The verandah of Rideau cottage was almost entirely renewed, and the balcony over, repaired and in part renewed.

The old plank sidewalk at top of cricket field was removed; 110 lineal feet of plank sidewalk was taken up and relaid at stables; 120 lineal feet was renewed from stables towards cloak room; 160 lineal feet was laid at end and side of skating rink, and all sidewalks were overhauled and repaired. About 1,000 lineal feet of strip fence at bowling ground cottage was removed; the wire fence at head of cricket field was taken down and rebuilt further down the field; 6,251 lineal feet of six feet high boundary fence was entirely rebuilt and painted; 350 lineal feet of four feet high, six strip, fence was rebuilt below tennis lawn; 600 lineal feet of eight feet high close board fence was rebuilt at kitchen garden and 125 lineal feet of four feet high picket fence was moved back several feet; 541 maple and elm trees were planted throughout the grounds and watered throughout the summer.

All the electric wiring poles were removed from the grounds, and 2,650 lineal feet of underground tile conduits laid, requiring 1,575 lineal feet of trench and eight concrete manholes with cast-iron covers; 81 superficial yards of concrete pavement were laid along front and side of cloak room, and 17 superficial yards in crossing at front of cloak room; 307 superficial yards were laid in place of old plank footpath at head of cricket field and 17½ superficial yards of concrete gangway was laid in front of stables. Concrete stairs were constructed to replace old cedar stairs at end of tennis court. The old walk on the upper lawn had to be filled up and sodded and a new walk cut through lawn to suit the entrance stairs to new room; the old concrete stairs had to be removed and a new one from new walk to lower lawn level and two concrete valve chambers constructed. A considerable amount of grading and sodding were required on terrace and lawns after the completion of the new sitting room.

The cricket pavilion, which was much dilapidated, was thoroughly repaired and painted.

There were made by the staff, three boxes for potting palms, nine painted hotbed frames for garden, twenty-four melon frames, two hundred lineal feet of shelving in carnation house, two large wheelbarrows for greenhouse, one hand box barrow for plants, four stepladders 12 feet high, twenty sliding ventilators and 400 boxes for plants, bulbs and seeds. A great number of new packing cases were made and old cases repaired for Their Royal Highnesses' trip to England. Gas piping was laid to new cottage.

Of painting, there were 19,566 yards on boundary fence, 3,196 yards tinting on walls and ceilings, 1,385 yards oiling, shellacking and polishing, 712 yards waxing and polishing floors, 2,995 yards old wall and ceiling paper removed, 1,304 yards papering walls and ceilings, 2,022 feet of glass repairing greenhouses, etc., and 289 days lettering, patching paint, enamelling furniture, etc.; 150 chairs were cleaned off and gold-bronzed, and 129 cleaned off and stained and varnished. Many repairs were made to furniture and a number of articles were re-upholstered. The porte-cochère was repainted in one colour and the new room walls were painted to match adjoining work.

Of table china, there were supplied 958 plates, 360 cups and saucers, twenty-six jugs, six bowls, seven muffin dishes, twenty-four egg cups and two soup tureens; of stoneware, twelve jugs, six bowls and six soap dishes; of glassware, 192 tumblers, thirty-six caraffes and glasses and six jugs.

There were supplied a quantity of napery to keep up the ordinary stock.

Repairs and renewals were made to furniture, heating, plumbing, water and bell services, joinery, plastering and glazing.

The conservatories were kept in order, the hay was cut and housed, the lawns, drives, etc., rolled and otherwise tended. The icehouse was stored with ice. The roofs, paths, slides, rinks, etc., were cleared of snow by the departmental staff, by whom the grounds, lawns, gardens and plant-houses were maintained. The curling and skating rinks were flooded and tended and the toboggan slide was kept in order. The usual periodic cleaning, packing and unpacking were done; arrangements for, and attendance on, entertainments were furnished, and the rinks, slides, etc., kept in order.

Work done under the supervision of Wm. Hutchison, superintendent.

GOVERNMENT WORKSHOPS BUILDING, QUEEN AND O'CONNOR STREETS.

There were supplied to the Public Works Department and connected up, complete, three radiators.

Work done by the departmental staff.

John Shearer, superintendent.

INLAND REVENUE AND PUBLIC WORKS BUILDING, VICTORIA ISLAND.

A number of brick walls were demolished, cement floors were laid, door and window openings were made or closed, as required. New windows and doors were inserted and hung, the walls were cleaned, tinted and painted, the floors were treated, and coils bronzed. One panel board and forty electric lights were installed; one cupboard was supplied, as also one brass rod and curtain.

Two w.c.'s and plumbing were fitted for the dredging branch of the Department of Public Works.

Work done by the departmental staff.

John Shearer, superintendent.

INTERIOR DEPARTMENT (RENTED PREMISES).

At 128 Queen street, new telephones were installed and some extensions made; at 258 Spark street, one new w.c. was installed and thirteen rooms cleaned, tinted and painted, floors treated and coils bronzed.

Work done by the departmental staff.

John Shearer, superintendent.

LANGEVIN BLOCK.

The renewal of the plumbing in the lavatories was continued and with the exception of those on the ground floor, completed.

The setting of six of the two batteries of eight boilers was taken down and replaced by 'Schwab setting,' with new grates, etc.; the large Worthington pump was rebored and had new rods, etc., and one of the small pumps, which was worn out, was replaced; the hot-water piping passing through offices in basement was covered with non-conducting material; one hot-water radiator was installed in the Department of Agriculture, one water tap and one sink in the Department of the Interior, an electric clock in the Post Office Department and changes were made in the heating pipes in three rooms for the Department of Agriculture. Of tungstoliers, there were fitted up twenty-six, of which eleven 5-light, nine 4-light and one 2-light were for the Agriculture and three 4-light and two 2-light for the Post Office Department. Thirty-two electric fans were supplied, sixteen for the Post Office Department, twelve for the Department of the Interior and four for the Department of Agriculture; 262 drop lights were supplied, 145 for the Post Office Department and 117 for the Department of the Interior, as also a number for the Department of Agriculture; four branches of the Post Office Department and one branch of the Department of Agriculture were wired; electric bell systems were wired, five in the Post Office Department, seven in

the Department of Agriculture and six in the Department of the Interior, with alterations in five rooms in the Post Office Department; electric lighting was wired for in four branches of the Post Office Department and one for the Department of Agriculture; telephones and extensions were installed in nearly all branches of the Department of the Interior and of the Post Office Department; hardwood flooring was laid in two rooms in the Department of the Interior, and fourteen squares of hardwood floor in the Post Office Department; three sets of shelving were put in for the Department of the Interior, and 104 lineal feet of same for the Post Office Department; eight oak cabinets were supplied, four each to the Post Office Department and the Department of the Interior; fifty tables were supplied, thirty to the Department of the Interior, nineteen to the Post Office Department and one to the Department of Agriculture; twenty-two brass rods and curtains were supplied, seven each to the Departments of Interior and Agriculture, and eight to the Post Office Department; seven cupboards were supplied to the Department of the Interior, five to the Post Office and 152 lineal feet of cupboard, 9 feet high, to the Department of Agriculture; four stepladders each were supplied to the Departments of the Interior and the Post Office; four map racks were supplied to the Department of the Interior, and thirteen to the Post Office Department; thirty-seven chair cushions were supplied to the Department of the Interior, and thirteen to the Post Office Department; 250 coat hooks were furnished to the Post Office Department and 102 to the Agriculture; 85 feet of panelled partition was erected for the Department of the Interior and twenty-four feet for the Department of Agriculture; six sets of pigeon-holes were supplied to the Department of the Interior and eight to the Post Office Department; twenty-eight screens were furnished, twelve for the Department of Agriculture and sixteen to the Department of the Interior; two new frames and doors, one hardwood floor and 59 lineal feet of shelving were supplied to the Department of Agriculture; twenty-three signs, two screen doors, two desks, nine new doors and nine footstools were supplied to the Post Office Department; eleven window deflectors, and thirty-five desk lamps were supplied to the Department of the Interior; 149 lights were glazed for the Department of the Interior and 157 for the Post Office Department; heating apparatus was changed and added to in three rooms in the Department of Agriculture; electric light was altered in six rooms in Department of the Interior, and a telephone service extended to room in the Department of Agriculture.

Work done by the departmental staff.

John Shearer, superintendent.

### MAJOR HILL PARK.

There were 4,400 bulbs planted for the spring display, and 3,000 square yards of sodding was done on bare spots. The new lighting system, which was turned on October 10, 1912, was a great improvement.

Usual and ordinary repairs were effected, and the grass and flower display well kept up.

Work done under the supervision of this department.

John Shearer, superintendent.

Thomas Davis, gardener.

### MILITIA AND DEFENCE—WOODS BUILDING, SLATER STREET.

This is a rented building. Fifteen lineal feet of partition were erected; one chimney cap was put on; three rooms were papered; seven rooms were cleaned, tinted and painted and had floors treated, and there were furnished two cupboards, fifteen brass rods and curtains, twenty-four tables, fourteen window shades, one book shelf, two washstands, one typewriter stand, thirteen leather chair cushions, three door springs, eleven window deflectors, nine signs, two doors and frames, four sections of

gun racks, twelve saddle and harness racks, two glazed partitions, sixty-three shelves, one set shelves, forty-one hooks on strips, twenty locks and thirty-nine keys. A cupboard was extended and alteration of bells, heating, plumbing and lighting was done; extensions from the bell and lighting services, as well as a large number of new services, were installed; thirteen drop lights were installed, as also nineteen call bell systems, fifteen electric fans, sixteen desk lamps, one buzzer, one water closet, one wash basin, two desk telephones, sixteen lamps, one 2-light Tungsten cluster, three 4-light Tungsten clusters, besides adapters, shades, globes, switches, pushes, wire, etc.

Work done by the departmental staff.

John Shearer, superintendent.

MINES BRANCH, DEPARTMENT OF MINES.—CORNER OF SUSSEX AND GEORGE STREETS.

This building, which has hitherto been occupied as the Geological Museum, was, on the removal of the scientific collections and of the topographical and naturalists staffs to the Victoria Memorial Museum, thoroughly altered internally, to adapt it for occupation as the offices and laboratories of the Mines Branch. A new hot-water heating apparatus, a plenum ventilating apparatus, which serves the rooms throughout all but the basement, and a vacuum sweeping machine with the same scope, were supplied. Exhaust air fans were fitted to the fume closets and the lavatory rooms; electric lighting was installed and complete laboratory equipment, office furniture, carpets, blinds and usual and necessary fixtures.

Work done under the supervision of the department.

Jno. Shearer, superintendent.

NAVAL SERVICE BUILDING.—HAWKESBURY BUILDING, SUSSEX STREET.

Changes in phones were made in five rooms, and in call bells in six rooms, with all new wiring; two heating radiators were fitted up and connected in vault; some minor electric fixtures were supplied and numerous changes made in lighting wiring

Work done by departmental staff.

Jno. Shearer, superintendent.

NORTHWEST MOUNTED POLICE.—NO. 132 WELLINGTON STREET.

This is a rented building. The N.W.M. Police offices were removed here from the western block, departmental buildings. The building was cleaned internally, tinted, painted and had 925 yards of flooring treated. Repairs were made to cement floors and plastering. Electric lighting was installed in three rooms; three telephones and a call bell system were installed; two brass rods and curtains were supplied; one new wash basin was fitted up; a large quantity of office furniture was supplied and some desks and other articles of furniture re-covered and repaired.

Work done under the supervision of this department.

Jno. Shearer, superintendent.

OBSERVATORY.

Two new stone buildings, harmonizing in style with the main building, one, known as the azimuth mark hut, and the other as the stellar Camera hut, were erected in the grounds, as also a tool house, 20 feet by 12 feet, on plan, and a hose reel shelter. One and three-quarter acres were graded, levelled and sodded, and 1,200 feet of concrete footpath laid.

Work carried on under the supervision of the department.

John Sharp, clerk of works.

PARLIAMENT BUILDINGS.

The lavatories in basement and attic floors were altered to give separate accommodation for the women. The corridors of the new wing were tinted, the walls of the restaurant and the interior of the House of Commons were repainted, the interior of the Commons Chamber having previously been treated to improve its acoustic properties. One door in basement was converted into a window, a terra cotta partition was built in lavatory, the old kitchen was refloored, and the floor of library was scraped and polished. Sixteen rooms, or offices, were cleaned, tinted, painted and had floors treated, and radiators bronzed; two hardwood floors were laid, one each for House of Commons and Senate Chamber; forty drop lights were installed, twenty-eight for the House of Commons, eleven for the Parliament Library and one for the Senate Chamber; six tables were supplied to the House of Commons and one to the Senate; to the House of Commons were supplied one oak cabinet, 300 rollers, five doors, one platform, thirteen feet of glazed partition, twelve table tops, six footstools, one cupboard, one wash basin, two call bell systems, eleven desk lamps, one 5-light and one 4-light and two 3-light tungstoliers, picture moulding on three rooms, 116 lettered signs and one phone case arm; to the Senate Chamber were supplied Nerst lamps, 99 heaters and 146 glowers, one brass rod and curtain, one desk lamp, one cupboard, one lounge and two chair cushions; to the Library of Parliament were supplied 48 feet shelving and two sets shelving for books; twenty-four leather seats and cane backs for chairs, and 208 lights of glass.

Work carried on under the supervision of John Shearer, superintendent, by the departmental staff.

PARLIAMENT HILL.—GROUNDS.

Foundations for the statues, to be erected the coming season, were laid; two new hydrants with the necessary valves and mains were placed; 1,440 square yards of sod were laid during the year and fifteen shade trees were planted on the north side of Wellington street boulevard. The electric lawn cutter has proved very efficient. The heavy snowstorm of November 25, 1912, destroyed a number of trees on the cliff at Lovers' Walk, the wet snow clinging to them until they broke. Considerable dead wood was removed from the cliff. During the dry period, it was necessary to employ six men watering for forty-four nights between the hours of 6 to 10 p.m., which hours were due to the restrictions placed on watering by the city. The stairs, fences and benches were repaired.

Work done by the departmental staff.

John Shearer, superintendent.

POPHAM AND JARMAN BUILDING.—QUEEN STREET.

These are rented premises. The attic wiring was altered and added to.

Work done by the departmental staff.

John Shearer, superintendent.

POST OFFICE.

A Forbes water sterlizing plant was installed, with all necessary drinking fountains, piping and fittings; ten rooms as also the post office and the corridors were cleaned, tinted and painted, and had floors treated and coils bronzed; the elevator, furniture and glazing were repaired, and alterations of fittings and tables were effected.

Work done under the supervision of the department.

John Shearer, superintendent.

POST OFFICE DEPARTMENT.—RAILWAY MAIL SERVICE, NORTHEAST CORNER SPARKS AND ELGIN STREETS.

These are rented quarters, consisting of the top floor of the old Hope building.

PRINTING BUREAU.

A Forbes water sterlizing plant was installed. Materials for plumbing and electrical work were furnished, the labour being done by the Bureau staff. Three new steam boilers were furnished, set up, connected with the steam piping and built up in brickwork. Five rooms and a number of partitions were cleaned, tinted, painted, etc. There were supplied thirteen platforms in basement, each 13 feet long, 3 feet 4 inches wide by 4 feet high; a high platform, with stairs and railing, 40 feet by 16 feet; one set of shelving, 16 feet long by 8 feet high; one hardwood floor, one cupboard, one gallery with rail and stairs, and 129 lights of glass replaced.

Work supervised by this department.

John Shearer, superintendent.

PUBLIC WORKS.

The following works have been done by this departmental staff in rented buildings: Repairs and renewals were made to plumbing at 32 Kent street, 36 Kent street, 319 Wellington street, 205 Wellington street, 371 Wellington street, 401 Wellington street, 402 Wellington street, 403 Wellington street, 261½ Wellington street, 70 Vittoria street, 72 Vittoria street, 88 Vittoria street, 101 Vittoria street and 69 Vittoria street, and cleaning, tinting and painting, 105 St. Patrick street, 109 St. Patrick street, 117 St. Patrick street, 211 Wellington street, 283 Wellington street and 77 Vittoria street.

REPAIRING STREETS, ETC.

Scraping, cleaning and general repairs were done to the various roadways, footpaths and streets, under the control of the department. Rubbish, scrapings and ashes were removed from Wellington street, Laurier bridge, East Block, West Block, Langevin Block, Parliament Building, Workshops, Post Office, Printing Bureau, Museum, Archives building, Military Stores building, the Mint, the numerous rented buildings, and the various streets, and deposited at Clarkstown dump; the grass at Printing Bureau, about Cartier square, Royal Mint, Wellington street, two bridges, Survey office, Fisheries Museum and Archives building was kept clipped, manure was drawn on and removed therefrom and the ashes removed from the boiler houses and furnace rooms of the various buildings; the roadways, sidewalks, footpaths, roofs and yards were kept clean of snow; drains were cut in snow and ice about building and along footpaths, and the footpaths sanded during the winter.

Work done by the departmental staff.

John Shearer, superintendent.

REGAL BUILDING.—CORNER QUEEN AND METCALFE STREETS.

This is a rented building for the Labour Department. The accountant's offices were cleaned, tinted, painted, had floors treated and coils bronzed; repairs were made to front steps and there were supplied bell blocks for assistant deputy, two brass rods and curtains, three desks, seven chairs, hat and coat hooks on strips, one desk lamp, three signs and eleven lights of glass.

Work done under the supervision of this department.

John Shearer, superintendent.

ROBINSON BUILDING.—NO. 68-72 QUEEN STREET.

This is a rented building. During the fiscal year, there were moved into this building, the Chief Architect's Branch of the Public Works Department, the Postal Stores Branch of the Post Office Department and the long room and express parcel's branch of the local custom-house. In the Customs portion of the building, the old shelving, fittings and furnishings were adapted and repaired, so far as possible, and new fittings, counters, etc., provided where necessary; the Post Office Department had four new wash basins, 692 feet of shelving, 255 feet of pigeon-hole case, 75 feet of cupboard, besides counters, partitions, etc., and the adaptation of old fittings; the Public Works Department had new lavatory basins, electric bell service in eight rooms, four rooms tinted, painted, etc., and the entire interior had new glazed wooden partitions, with doors, etc., arranged to suit the occupants. Electric lighting was installed throughout.

Work done under the supervision of this department.

John Shearer, superintendent.

ROYAL MINT.

A Forbes water sterilizing system was installed.

Two new wash basins were fitted up; the walls and stone sills were dressed where attacked by hydrochloria; the masons repaired grates, cement floors, etc.; the Mint iron fence and the window bars were painted, and there were supplied two desks, twenty-one cupboards, one map cabinet, eleven brass rods and curtains, two glazed partitions, one porch, one large hood of wood and glass, one large tank and stand to support hood, one wooden stack and pipe, sheet V-joint ceiling, sheet V-joint columns, nine door springs and eleven Yale locks. Repairs to locks, keys, door checks, carpentry, pumbing, painting, and a quantity of glazing, etc., were effected.

Work done under the supervision of this department.

John Shearer, superintendent.

SUPREME COURT.

There were supplied to the Supreme Court, 198 feet of shelving, one cupboard, four windows and frames, one sectional book case, one cushion, seventy-six lights of glass, two rods and curtains, one table, one hardwood floor, four signs and a number of articles of furniture repaired. Seven rooms were cleaned, tinted, painted and had radiators bronzed, one bell system was installed and alteration of lights was made.

Work done under the supervision of this department.

John Shearer, superintendent.

VICTORIA MUSEUM.

The setting of three of the six hot-water furnaces has been changed to the Schwab system; an electric turbine pump was installed to raise water to the upper floors which the city pressure does not reach; a small locomotive boiler was installed to provide steam for heating coil in hot-water storage tank; a Forbes sterilizer, with drinking fountains on all floors was installed; the minerological laboratory was completely fitted up with plumbing, etc., etc.; two tanks for the photographers were lined with lead; the floors were polished and waxed; one hot-water radiator and two sinks were provided; the partitions in the photographers room, together with 1,400 feet of picture rail were painted; 145 lights were reglazed; 41 doors were lettered and numbered; the windows on the north side were stuffed and there where supplied four cabinets, two ladders, two cupboards, five chair cushions, 420 feet of partitions, two wooden tanks, one hypo. bin, eight door springs, two ladders, thirty-four water trays, two oil cans and one door covered with galvanized iron.

A large number of articles of furniture and fittings were repaired and minor articles supplied; the roofs, roads and footpaths were kept free from snow. The winter sashes and summer blinds were cleaned, put on, taken off and stored periodically.

Work done under the departmental staff.

John Shearer, superintendent.

WESTERN BLOCK.

The painting of the walls and ceilings and corridors is being proceeded with, a portion of which is done. The Chief Architect's branch of the Department of Public Works was removed from the Western Block to the Robinson building, Queen street, and the premises vacated by them fitted up for other occupants. Changes to the stand pipes were made and new auto valves were fitted to all the steam radiators. Twenty-seven new doors and frames were put in, twenty-two for the Department of Public Works, four for the Marine and Fisheries Department and one for the Customs Department; two double windows were supplied the Marine and Fisheries Department; one cloth covered door was supplied to the Department of Railways and Canals; forty-three rooms were cleaned, tinted, painted and had radiators bronzed, twenty-six in the Department of Public Works, three in the Department of Railways and Canals, nine in the Customs Department, three in the Inland Revenue Department, two in the Department of Trade and Commerce, and all the basement rooms of the Customs Department; fourteen hardwood floors were laid, ten in the Department of Public Works, two in the Customs Department and one each in the Departments of Marine and Fisheries and Trade and Commerce; 45 lineal feet of panelled partition were supplied, 30 to the Department of Trade and Commerce and 15 to the Inland Revenue Department; 594 feet of shelving was supplied, 500 feet to the Department of Public Works, 49 to the Marine and Fisheries Department and 45 to the Department of Trade and Commerce; eight lavatory basins were provided, four in the Department of Railways and Canals, two in the Inland Revenue Department and one each in the Departments of Marine and Fisheries and Trade and Commerce; thirty-six brass rods and curtains were supplied, seven to the Customs Department, six to the Marine and Fisheries Department, twenty-two to the Department of Public Works and one to the Department of Trade and Commerce; thirty electric fans were supplied, twenty-one to the Marine and Fisheries Department, four to the Department of Trade and Commerce and one to the Inland Revenue Department; nine sets of drawer cabinets were supplied, four to the Department of Public Works, three to the Marine and Fisheries Department and two to the Inland Revenue Department; twenty-one rooms, eighteen in the Department of Public Works and three in the Department of Railways and Canals had bell connection hung; thirty-nine cupboards were furnished, twenty-six for the Department of Public Works, three for the Department of Railways and Canals, two for the Department of Trade and Commerce and four each for the Customs and Marine and Fisheries Departments; seventy tables were furnished, thirty-five for the Customs Department, twenty-two for the Department of Public Works, ten for the Marine and Fisheries Department and three for the Department of Trade and Commerce; 556 packing boxes were supplied, 536 for the Department of Public Works, eleven for the Department of Railways and Canals and nine for the Department of Trade and Commerce; 244 signs were written, 138 for the Customs Department, ninety-eight for the Department of Public Works, six for the Marine and Fisheries Department and two for the Department of Trade and Commerce; six steam radiators were provided, four in the Department of Railways and Canals and one each in the Departments of Trade and Commerce and Public Works; twelve chairs were supplied, two to the Customs Department, seven to the Marine and Fisheries Department; twelve chair cushions were supplied, seven to the Marine and Fisheries Department, three to the Department of Trade and

Commerce and two to the Customs Department; twenty-nine desk lamps were supplied, fifteen to the Department of Public Works, six to the Marine and Fisheries Department and three each to the Departments of Railways and Canals and Marine and Fisheries; two desks were furnished for the Marine and Fisheries Department and one each for the Customs Department and the Department of Railways and Canals; six fire screens were supplied to the Customs Department and four to the Department of Railways and Canals; four steam radiators were provided for the Department of Railways and Canals and one each for the Departments of Public Works and Trade and Commerce; twenty-nine desk lamps were supplied, fifteen for the Department of Public Works, six for the Marine and Fisheries Department, three each for the Departments of Trade and Commerce and Railways and Canals and two for the Inland Revenue Department; 179 drop lights were supplied, eighty-one for the Customs Department, fifty-four for the Department of Public Works, twenty-nine for the Department of Marine and Fisheries, fourteen for the Department of Railways and Canals and one for the Department of Trade and Commerce; 114 tungstoliers were supplied, four of 7 lights, one of 5 lights, twenty-seven of 4 lights and four of 3 lights for the Customs Department, five of 5 lights, seven of 4 lights, three of 3 lights and thirty-four of 1 light for the Department of Public Works; three of 5 lights, thirteen of 4 lights and two of 3 lights for the Marine and Fisheries Department; seven of 3 lights for the Department of Trade and Commerce; three of 3 lights for the Inland Revenue Department; and one of 5 lights for the Department of Railways and Canals; to the Department of Public Works were supplied six book cases, twelve window screens, two arc lamps and one electric clock; to the Marine and Fisheries Department were supplied one drawing board, one map rack, picture moulding in two rooms and four window deflectors; to the Customs Department were supplied one fireplace, one fire brick and basket, six stepladders, one grate blower, five goose-neck lamps and six shades; the Inland Revenue Department had gas connection in one room; the Department of Railways and Canals had new grates; there were supplied 203 lights of glass, 109 in the Marine and Fisheries Department, 61 in the Inland Revenue Department and 33 in the Customs Department; thirty sets of coat and hat hooks were supplied to the Department of Trade and Commerce.

BUILDINGS AND GROUNDS GENERALLY.

In addition to the works mentioned in the foregoing, there are innumerable smaller works, e.g., there are items of repair done by the roofers, masons, plumbers, locksmiths, electricians, fitters and other trades, items taking each a number of day's work of a tradesman, besides material to accomplish; minor works such as moving furniture from office to office, amounting to a large aggregate, even smaller work, as dusting books in Parliamentary Library, took this year, 463 days labour. Besides all these in connection with the various buildings, the property of the Government, there are similar works of repair, painting, papering, furnishing, tinting, etc., in connection with the numerous rented buildings, such works of repairs to, and renewals of, coal and other sheds, as well as works of a general character, such as the erection and taking down and storing of porches, winter boarding of outside steps, etc., all of which are done by the departmental staff.

John Shearer, superintendent.

## OWEN SOUND.

PUBLIC BUILDING.

The caretaker's quarters were cleaned, tinted, papered and painted and a canopy for the range supplied, all under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

## PARIS.

### POST OFFICE ADDITION.

On January 17, 1913, a contract was entered into for the construction of a one-story and basement addition, which is being constructed on the right side of the building, the front portion of which is 15 feet frontage by 40 feet deep, or the depth of the building, the remainder, 28 feet deep by 30 feet broad. That part of the ground floor wall of right end, which separates the building from the addition, is to be removed and the superincumbent mass supported by iron joists. The heating and electric lighting systems are to be extended to the new parts.

Geo. and W. Whalen, clerks of works.

Jas. Sinclair, contractor.

A new section was fitted in heating furnace in place of one condemned. Work done under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

## PEMBROKE.

### PUBLIC BUILDING, ADDITIONS AND ALTERATIONS

A contract for the execution of these works was entered into on 12th September, 1912. The addition is to be in rear, one story and basement, 50 feet in breadth by 30 feet in depth, having a flat roof. A portion of the rear wall of the working space of the post office on the ground floor is to be removed to provide access to the new portion, and the wall above is to be supported on iron beams. The basement of the addition has two store-rooms and an office for the gas inspector, while the ground floor is devoted to rural delivery, postmaster's room, mail entrance, toilet room and brick vault. The basement floor is of concrete, the toilet room floor of tile and the remaining floors, as also the partitions and roof, of wood, the roof covered with metal. The toilet room in old building is to be changed in position. The original heating furnaces, the hot-water mains and their branches in basement of the building are to be removed and replaced by twin hot-water furnaces, new mains and new branches connected with the original rising mains and extended to addition. The lighting of the original building will also be extended to the addition.

Plans and specification prepared by this department.

Resident Architect, W. J. Moore.

Contractor, W. H. Beatty..

## PETERBOROUGH.

### CUSTOM HOUSE.

The hot-water heating furnace was removed and replaced by twin cast-iron furnaces, and alterations of and addition to main in basement were made. Work done under the supervision of Wm. Mansfield, inspector of heating and plumbing.

### POST OFFICE.

Some additional heating surface in sorting room, was added to the heating apparatus, under the supervision of Wm. Mansfield, inspector of heating and plumbing.

## PETROLEA.

### PUBLIC BUILDING.

Some new boxes were inserted in post office screen, under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

## PORT COLBORNE.

PUBLIC BUILDING.

Alteration of the post office fittings was effected and some extra lights supplied, under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

## PORT PERRY.

PUBLIC BUILDING.

This building, which was described in my report of last year, is still in process of erection.

Plans, etc., prepared by this department.
Clerk of works, W. L. Parrish.
Contractor, W. J. Trick.

## SANDWICH.

PUBLIC BUILDING.

Repairs were effected to roof, rain water conductor and flag pole, under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

## SARNIA.

PUBLIC BUILDING.

Additional electric lights were installed, existing lights were rearranged, shades were put on windows at money order wicket and pigeon-hole shelving was supplied to custom house, under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

A new boiler was installed and connected with the two in building and the mains were slightly altered, under the supervision of Wm. Mansfield, inspector of heating and plumbing.

## SAULT STE. MARIE.

PUBLIC BUILDING.

A revolving door was installed at main entrance, under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

## SEAFORTH.

PUBLIC BUILDING.

This building, which was described in my report of last year, is still in process of erection.

Plans, etc., prepared by this department.
Clerk of works, Richard Wright.
Contractor, Thomas McKenzie.

## SIMCOE.

PUBLIC BUILDING.

The post office and corridors were painted and kalsomined, the Customs offices and lavatory were painted, the radiators bronzed, the front door varnished and a storm porch erected at rear door. All under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

## ST. CATHARINES.

PUBLIC BUILDING.

A new system of electric wiring was installed; natural gas was introduced for use in the heating furnaces; the entrance gateway was enlarged and new gates erected; six stools, two desk and twenty-four other lamps were supplied, and the roof was repaired, under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

## ST. MARYS.

PUBLIC BUILDING.

An outside porch was erected at front entrance door; the front steps were hammer-dressed; the rear road was gravelled and repairs were made to the electric lighting. All under the supervision of Thos. A. Hastings, Toronto, Ont.

## ST. THOMAS.

PUBLIC BUILDING.

The heating furnaces were repaired and re-covered, under the supervision of Wm. Mansfield, inspector of heating and plumbing.

Minor repairs to heating apparatus were made, and the street boxes were painted, under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

## STRATFORD.

PUBLIC BUILDING.

A new roadway was constructed by the town at the expense of the Government; a new stairway was erected; the caretaker's quarters and two tower rooms were painted; twelve lockers and a new sink were supplied, and repairs were made to plumbing, side entrance and furniture. All under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

## TILBURY.

PUBLIC BUILDING.

This building, which was described in my report of last year, is still in process of construction.

Plans, etc., prepared by this department.

Clerk of works, Asa Lang.

Contractors, J. H. Pigott & Sons.

## TILLSONBURG.

PUBLIC BUILDING.

This building, which was described in my report of last year, is practically completed.

Plans, etc., prepared by this department.

Resident architect, W. H. Jackson.

Contractors, Schultz Bros. & Co.

## TORONTO.

CUSTOM HOUSE.

A wash basin, with all connections, was provided on second floor, and there were supplied eleven chairs, seven tables, four desks, twelve coat and hat trees, six coat and

hat racks and one uniform for elevator attendant. All under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

EXAMINING WAREHOUSE.

A new passenger elevator was installed; a new stairway, with entrance on Yonge street, was constructed; a brick pit for water meter, a new soil pipe, marble steps and partitions and metal ceilings for hardware department were provided, as also, generally, twenty-four chairs, two tables, one desk and one uniform for elevator attendant. All under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

GARAGE FOR POST OFFICE MOTORS.

The rented building at 66 Bond street was vacated November 30, 1912, and the new garage purchased by the Government at 87 Richmond street, E. Toronto, was occupied.

POST OFFICE.

The contracts for additional fittings referred to in last year's report were completed; a large quantity of additional fittings were erected; a new galvanized iron roof covering was put on; additional plumbing work was done; an elevator pit was built and drained; some brick partitions were built in basement; four ventilators were built, and there were supplied 133 stools, one wardrobe, fifty-nine chairs, eight desks, four electric fans, two Wilton rugs, cork carpet in hallway and rubber matting on stairs, two trucks, 1,000 wooden tags and one sanitary drinking fountain. A number of ceilings were plastered and ten additional lamps were piped for gas. The street letter boxes were painted.

Work done under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

CONFEDERATION LIFE BUILDING.

Offices for district engineer are rented in this building. Four chairs and one cabinet were supplied, under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

INLAND REVENUE AND ASSISTANT RECEIVER GENERAL'S OFFICES.

A granolithic footpath on street front, with cement steps, was laid; a new smoke stack and new eaves-troughs were provided; alterations of interior fittings of receiver general's offices were made, a fixed desk with glass partition provided therefor, and minor repairs effected.

Work supervised by Thos. A. Hastings, clerk of works, Toronto, Ont.

METEOROLOGICAL BUILDING.

The heating of annex was altered; a concrete footpath on street, with steps, was laid; the gas piping was continued from basement to laboratory on second floor; the fence and flag pole repaired, and shelving, tables, chairs and stools were supplied.

Work supervised by Thos. A. Hastings, clerk of works, Toronto, Ont.

UNION STATION, POSTAL STATION 'A,' AND IMMIGRATION STATION.

These are rented offices. A spare armature for elevator was supplied under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

POSTAL STATION 'C.'

A stamp drawer cabinet was supplied under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

POSTAL STATION 'D,' WEST TORONTO.

A concrete floor was laid in basement; two water closets were fitted up in basement; the water pipe and waste pipe were altered, and one oak table was supplied for Customs.

Work supervised by Thos. A. Hastings, clerk of works, Toronto, Ont.

POSTAL STATION 'E.'

This is a rented building on Bloor and Markham streets. One chair was supplied, under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

POSTAL STATION 'F'—YONGE AND CHARLES STREETS.

Wooden, glazed partitions to form three offices for Railway Commission inspector were erected, and these offices kalsomined and furnished with three rugs.

Work supervised by Thos. A. Hastings, clerk of works, Toronto, Ont.

POSTAL STATION 'K'—NORTH TORONTO.

In the caretaker's apartments eight rooms were papered and painted, the stairs were sheeted in and there were supplied window blinds, bath, basin, sink and tray, water closet and range boiler. The necessary soil pipe to street sewer was put in and the letter carriers' department was fitted up with electric lighting, lavatory, etc.

Work supervised by Thos. A. Hastings, clerk of works, Toronto, Ont.

## TRENTON.

PUBLIC BUILDING.

A new mail lobby was constructed in rear of the building; two sets of entrance steps were constructed; five window sashes were furnished and additional electric lighting was installed in mail room.

Work supervised by Thos. A. Hastings, clerk of works, Toronto, Ont.

## UXBRIDGE.

PUBLIC BUILDING.

This building,, which was described in my report of last year, is still in process of construction. A tower clock has been installed.

Plans, etc., prepared by this department.

Clerk of works, John Park.

Contractor, David Meyer.

## WALKERTON.

POST OFFICE.

One desk and chair were supplied to the collector of Customs, under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

## WALLACEBURG.

PUBLIC BUILDING.

A fireproof safe was supplied under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

### WELLAND.

PUBLIC BUILDING.

The caretaker's quarters were papered and painted; the front entrance doors were oiled; a new section of boxes with electric lights for post office, and some window shades for custom house were supplied.

Work supervised by Thos. A. Hastings, clerk of works, Toronto, Ont.

### WINDSOR.

PUBLIC BUILDING.

A lavatory in money order department of post office was put in; the annex was wired for lighting, painted and papered for the postal parcels and appraisers' departments, and stoves and pipes, counters, etc., therefor, were supplied; the roofs and dormer windows and the outside wood and ironwork of the annex were painted. Some articles of furniture were supplied to the collector of Customs, some broken slate and conductor pipe, as also the plumbing and gas fittings and some sand and gravel were supplied to roadways.

Work supervised by Thos. A. Hastings, clerk of works, Toronto, Ont.

### WINGHAM.

PUBLIC BUILDING.

The woodwork was painted and the floors oiled.

Work supervised by Thos. A. Hastings, clerk of works, Toronto, Ont.

### WOODSTOCK.

PUBLIC BUILDING.

Repairs were made to heating apparatus under the supervision of Wm. Mansfield, inspector of heating and plumbing.

New safety treads were set in entrance steps; the dormer windows, fire escapes and street letter boxes were painted; a number of rooms papered; lifts were put on windows; a platform was laid about flag pole, and the road in rear gravelled.

Work done under the supervision of Thos. A. Hastings, clerk of works, Toronto, Ont.

## PROVINCE OF MANITOBA.

### BRANDON.

PUBLIC BUILDING.

A cement footpath was laid; repairs were made to the trucks, and minor repairs to joinery, etc., under the supervision of J. E. Cyr, resident superintendent, Winnipeg.

The building was cleaned, tinted and painted inside and out; the windows, doors, floors and joinery generally were repaired, and window blinds and cork carpet were supplied. Work supervised by W. T. Mollard, Regina, Sask., clerk of works, Saskatchewan and Alberta.

### MINNEDOSA.

PUBLIC BUILDING.

On December 10, 1912, a contract was awarded for the construction of this building, on a plot of ground situated at the northeast corner of the intersection of Tillson

and Main streets. It is to consist of a main portion having two stories of brick and a mansard wooden attic, on a stone basement, including a five-story and basement tower on the right anterior angle, measuring 31 feet frontage by 62 feet depth, and a one-story brick adjunct on a stone basement, 27 feet by 24 feet. The floor of the basement is concrete and a partition which divides the stairway hall and fuel room from the front of the basement and which is carried up through the ground and first floors, is brick, as is also the vault, but the remaining floors and partitions, as also the partitions, stairs and roof, are of wood. There is a power pump and pneumatic tank in basement, and the water is supplied for the service of the building from a well.

The basement is to contain furnace and fuel rooms, brick vault, stairway hall and pump room; the ground floor, the post office, brick vault, stairway hall, mail lobby and entrance lobby in the main portion and, in the one-story adjunct, the examining warehouse, weights and measures and toilet room; on the first floor, the Customs long room, two Customs offices, two Inland Revenue offices, corridor, brick vault, women's toilet and stairway hall and, in the attic, six living rooms, bath room, five closets, pantry, hall and stairway hall.

Plans, etc., prepared by this department.

Architect in charge, W. D. Ford Blankenstein.

Contractors, The Brown Construction Co., of Winnipeg, Man.

## MORDEN.

### PUBLIC BUILDING.

On March 13, 1913, a contract was entered for the construction of this building, which faces on Stephen street and has Eighth street on its right flank, having a frontage of 43 feet by an extreme depth of 64 feet, 23 feet of which is a rear wing, 27 feet in width. There are two stories of brick on a stone basement and there is a four stories and brick tower in the right anterior angle. The basement floor and that of the mail lobby is cement and one of the partitions is brick, the floors of public lobby, toilet rooms and vestibules are of tile; the front steps are to be cut stone, the outside platforms cement, but the partitions, the remaining floors, the stairs and the roof are of wood, the roof covered with metal. The basement contains heating furnaces, fuel, pump and tank; the ground floor, main portion, the post office, men's toilet, side entrance hall, two front vestibules and stairs and, in wing, mail lobby, weights and measures office and Customs examining warehouse; the first floor, main portion, Inland Revenue office, four living rooms, hall, stairway, bath room, two toilet rooms, and, in wing, Customs long room, Customs collector and Customs records.

The water supply is from a well in yard. Drainage is to a septic tank in yard. Heating is by hot water and lighting by electricity.

Plans, etc., prepared by this department.

Clerk of works, G. F. Heckles.

Contractors, The Brown Construction Co., of Winnipeg, Man.

## PORTAGE LA PRAIRIE.

### NEW PUBLIC BUILDING.

The construction of this building, which was described in my last year's report, is completed.

Plans, etc., prepared by this department.

Clerk of works, J. Hughes.

Contractors, Snyder Bros.

## ST. BONIFACE.

### PUBLIC BUILDING.

A steel box inclosing electric metre and a door spring were supplied, and repairs were made to post office boxes, locks, springs, letter boxes, furnace and ironmongery, under the supervision of J. E. Cyr, resident superintendent, Winnipeg.

## WINNIPEG.

### IMMIGRATION BUILDINGS NOS. 1, 2, 3, 4 AND 5, HIGGINS STREET.

An area to fuel rooms No. 1 was constructed; a large quantity of steamfitting and plumbing repairs were effected; a soft water tank was placed in No. 2 building; No. 3 building entrance had new arches and gates; No. 1 building had repairs to pump and door check, also had supplied linoleum and furniture, and lamps and general supplies were provided for all the buildings, under the supervision of J. E. Cyr, resident superintendent, Winnipeg.

### POSTAL STATION NO. 1.

This is a rented building situated in the Canadian Pacific Railway terminal buildings.

### POSTAL STATION 'B.'

Some plumbing was done and hardware supplied, also electric goods, and minor general repairs made to building, under the supervision of J. E. Cyr, resident superintendent, Winnipeg.

### NEW POST OFFICE.

Repairs and renewals were made to heating and joinery; there were supplied a power pump, hardware, chairs, tables, clock, tubing for electric work, brass, desks, stools, furniture, door mat, lamps, wrenches, vise, stock and dies, valves, rubber gaskets, covering felt, carbons, grate bars, lamps and supplies for caretaker; doors and signs were lettered; carpets were cleaned, and repairs were made to trucks, post office boxes, clock, brass work, gauges, flag, elevator, mail cart, vault door, revolving door, furniture, plumbing, etc.

Work supervised by J. E. Cyr, resident superintendent, Winnipeg.

### OLD POST OFFICE.

This building is occupied by the custom house, Assistant Receiver General's office, the Inland Revenue office and the Indian Affairs office.

A time clock was supplied on safe door for Receiver General's office; chairs, a table and office furniture were supplied to the Indian Department; in the custom-house the brass wickets were altered, electric fixtures were fitted up, some steamfitting and plumbing and some additions to joinery were effected; a desk, six chairs, brass plates and some furniture were supplied, and repairs were made to concrete floors, scales, furniture, all under the supervision of J. E. Cyr, resident superintendent, Winnipeg.

### EXAMINING WAREHOUSE.

Considerable additions, renewals and repairs were made to joinery, steamfitting and plumbing; six bunks for G.N.E., the elevator, the door locks and ironmongery were repaired; radiators were boxed and electrical and hardware supplies were provided, all under the supervision of J. E. Cyr, resident superintendent, Winnipeg.

HYDROGRAPHIC SURVEY.

These are rented premises. Office fittings, also table, desk and chair were supplied, under the supervision of J. E. Cyr, resident superintendent, Winnipeg.

RAILWAY COMMISSION OFFICES.

These are rented offices in the Traders' Bank, 433 Main street. Some mats were supplied under the supervision of J. E. Cyr, resident superintendent, Winnipeg.

WEIGHTS AND MEASURES.

This is a rented suite of offices in the Dingwall block, Alexander avenue.

## PROVINCE OF SASKATCHEWAN.

### GRAVELBOURG.

POST OFFICE AND TELEGRAPH OFFICE.

The construction of this building, which was described in last year's report, is completed.

Plans and specification prepared by this department.

Work supervised by W. S. Mollard, clerk of works, Saskatchewan and Alberta, Regina.

### HUMBOLDT.

PUBLIC BUILDING.

The construction of this building, which was described in last year's report, is completed.

Plans, etc., prepared by this department.

Clerk of works, Wm. Driver.

Contractors, the Brown Construction Co.

### INDIAN HEAD.

EXPERIMENTAL FARM—BARN AND STABLING.

On October 10, 1912, a contract was entered into for the construction of this range of buildings which consists of a barn and cow stables, 112 feet long, 73 feet broad (exclusive of two root cellars, 17 feet by 18 feet, on rear) by 54 feet in height, and a horse stable placed at right angles to the foregoing, 75 feet long by 33 feet broad by 32 feet in height. The foundations and walls and floor of lower story are of concrete, the remaining walls, floors and roof, of wood. The cow stable occupies the lower floor of the barn and has five calf pens, three bull pens, a feed room, sixty-eight cattle stalls, three feed rooms, feeding passages and two root cellars; the upper story has two approach driveways in rear over root cellars, mow, implement work room, granary and drive floor. The horse stable has on the lower floor, fourteen stalls for horses, two box stalls, a feed room, harness room, stairway and a passage running from end to end, the loft over being principally a mow.

Plans were prepared and work supervised by W. T. Mollard, clerk of works, Saskatchewan and Alberta, Regina, Sask.

Contractor, A. B. Hamilton.

FOREST NURSERY STATION.

A contract was entered into on October 19, 1912, and the works were completed during the fiscal year, for the construction of a boarding house.

Plans and specifications prepared and work supervised by W. T. Mollard, clerk of works, Saskatchewan and Alberta, Regina, Sask.

## LLOYDMINSTER.

PUBLIC BUILDING.

This building, which was described in last year's report, is nearing completion.
Plans, etc., prepared by this department.
Clerk of works, Emerson E. Miller.
Contractors, F E. Healy and Jos. M. Pigott.

## MELFORT.

PUBLIC BUILDING.

The construction of this building, described in last year's report, is completed.
Plans, etc., prepared by this department.
Clerk of works, J. W. Roscoe.
Contractors, the J. McDiarmid Co., of Winnipeg.

## MOOSEJAW.

NEW PUBLIC BUILDING.

This building, which was described in my last year's report, is still in process of construction.

## PRINCE ALBERT.

SASKATCHEWAN PENITENTIARY WORKSHOPS.

This building, which was described in my last year's report, is completed.
Plans, etc., prepared by this department.
Clerk of works, F. W. Dickenson.
Contractors, the Saskatchewan Building Construction Co.

## REGINA.

PUBLIC BUILDING.

General repairs of damage done by cyclone of June 30, 1912, were effected, chiefly to glazing, awnings and blinds, but to all trades to some extent. There were also ordinary but extensive repairs to heating, plumbing, lighting, glazing, locks, checks, etc.

Work supervised by W. T. Mollard, clerk of works, Saskatchewan, Regina, Sask.

DOMINION LANDS OFFICE.

Sundry renovations, repairs and painting were effected, under the supervision of W. T. Mollard, clerk of works, Saskatchewan, Regina, Sask.

POST OFFICE.

The street letter and newspaper boxes were painted. Doors were broken through between post office and old Customs examining warehouse; the registered letter office

was altered and enlarged; the post office fittings were rearranged and has new tables provided; an iron door and a sliding door were put in vault; there were supplied one stationary cupboard, one stamp cabinet, one filing case, three wardrobes, seven window blinds, two leather cushions, three tables, four desks, one store cupboard, six chairs, seven window blinds, six stools, two leather cushions, and some additional electric lights, all under the supervision of W. T. Mollard, clerk of works, Saskatchewan, Regina.

### SASKATOON.

PUBLIC BUILDING.

Storm porches were provided on public entrances, and some kalsomining and plumbing, under the supervision of W. T. Mollard, clerk of works, Saskatchewan, Regina, Sask.

### WEYBURN.

PUBLIC BUILDING.

The construction of this building, which was described in my report of last year, is nearly completed.

Plans, etc., prepared by this department.

Clerk of works, Geo. J. G. Jarrett.

Contractors, Navin Bros.

## PROVINCE OF ALBERTA.

### CALGARY.

IMMIGRATION BUILDING.

The construction of this building, which was described in my report of last year, is still in progress.

Plans, etc., prepared by this department.

Clerk of works, Martin Lathanwaite.

Contractors, J. McDiarmid Co.

EXAMINING WAREHOUSE.

On December 12, 1912, a contract was entered into for the construction of this building, which measures 200 feet from east to west and 112 feet from north to south; 40 feet of the west end, as also 23 feet of east end, by half the breadth on the north side, is unexcavated. There is a basement and four stories, the basement walls of concrete, stone-faced above ground; the ground floor of cut stone with brick backing, and the first, second and third floors of brick with cut stone dressing; the cornice is sheet metal. The floors, partitions and roof are mainly steel and concrete, the stairs of iron, and the floor covering of corridors, toilet rooms and stairway halls is terrazza. Excepting the unexcavated portions referred to in the foregoing, the basement extends under the entire building, containing accommodation for the steam heating boilers, pumps, etc., fuel storage, transformers, four freight elevators and one passenger elevator. On the ground floor, the entire width of the building, by 37 feet of the length of the western extremity, is a paved, covered driveway, while a similar driveway, 23 feet long by one-half the breadth of the building, occupies the northeast

corner of the building. Excepting a row of eight offices, a stairway and entrance hall and two toilet rooms, which together extend along the south front from driveway to driveway, the entire floor is an examining room, and has four freight and one passenger elevators. The first, second and third floors are similar in plan, each to another; on the south front middle is the staircase, with an office on either side; the length of the remainder of the building is divided into three equal portions, the eastern compartment containing two toilet rooms and the middle compartment four freight and one passenger elevator; the remaining space is examining room. Heating is by steam, and lighting by electricity.

Plans and specification of the construction were prepared by the department, and of the heating and lighting by Domestic Engineering Co., of Montreal, P.Q.

Resident architect, Geo. Dowler.

Clerk of works, W. J. Doherty.

Contractors, Thos. J. McDairmid Co., of Winnipeg.

## LETHBRIDGE.

### PUBLIC BUILDING.

A contract for the construction of this building on the south side of Dufferin street, having Glyn street on the west and a lane on the east side, was entered into September 14, 1912. It is to be a four stories and basement building, measuring on plan 104 feet front by 77 feet deep, the basement on ground floor being an oblong, but the upper stories forming a hollow square inclosing a space in rear measuring 70 feet by 30 feet, including a six stories, basement and roof tower on northwest corner of building. The basement walls are concrete, stone-faced above ground; the walls on Dufferin and Glyn streets, including tower, are cut stone backed with brick, and the east and south walls are of brick. The construction of the floors, partitions and roof is iron and concrete, of the stairs, iron, and of the vaults, brick. The floors of the corridors and lavatories throughout, the mail entrance ground floor, the public space in Customs long room, first floor, and of the halls, second and third floors, are terrazza with marble skirtings; of the halls on ground and first floors and the public space in post office, ground floor, are marble mosaic with marble dado walls.

The basement is to contain the furnace room, transformer room, lavatory, coal store, storage and elevator; the ground floor, the post office, mail entrance, brick vault, Customs examining warehouse, weights and measures, lavatory, elevator and two stairways; the first floor, Customs long room, Customs collectors office, five offices, brick vault, two lavatories, corridors, two stairway halls and elevator; the second floor, postal examining room, two postal offices, seven offices, one brick vault, one toilet room, two lavatories, one bedroom, hall, two stairways, elevator and corridors; the third floor, nine offices, four living rooms, toilet room, bath room, brick vault, elevator, pantry, two closets, two stairway halls and corridors.

The heating is by hot water, lighting by electricity and water supply from the town system.

The style of architecture is a plain variety of English Renaissance.

Plans, etc., prepared by this department.

Resident architects, Charles Raley and E. E. Carver.

Contractors, Navin Brothers.

## STRATHCONA.

### PUBLIC BUILDING.

The construction of this building, which was described in my last year's report, is completed.

Plans, etc., prepared by this department.

Contractors, M. A. Piggott & Sons.

ARMOURY.

The construction of this building, which was described in my last year's report, is completed.

Plans, etc., prepared by this department.
Clerk of works, W. G. Congdon.
Contractors, M. A. Piggott & Sons, of Kenora.

### WETASKIWIN.

PUBLIC BUILDING.

The construction of this building, which was described in my last year's report, is completed.

Clerk of works, W. D. Benjamin Miller.
Contractors, the Brown Construction Co., of Winnipeg.

## PROVINCE OF BRITISH COLUMBIA.

### CHILLIWACK.

PUBLIC BUILDING.

This building, which was described in my report last year, is completed.
Plans, etc., prepared by this department.
Clerk of works, J. C. Robertson.
Contractor, Edward Hunt.

### CRANBROOK.

PUBLIC BUILDING.

This building, which was described last year in my annual report, is completed.
Plans, etc., prepared by this department.
Clerks of works, M. McEachren.
Contractors, the McCallum Co.

### COMOX.

POST OFFICE BUILDING.

A wooden two-story building, with basement, situated on the corner of View and Drabble streets, measuring 24 feet by 36 feet on plan, having the post office on the ground floor. Heating is by hot-air furnace, lighting by oil lamps, and water service from a well pump and tank; one w.c. on ground floor.

A contract for the construction of this building was entered into December 23, 1912, and the works were completed during the fiscal year.

Contractors, Warwick and White.

### CUMBERLAND.

PUBLIC BUILDING.

The custom-house was completely fitted up with fittings and furniture and some door checks and lamps supplied. General minor repairs in the various trades were effected.

Work supervised by Wm. Henderson, resident architect, Victoria, B.C.

## FERNIE.

### PUBLIC BUILDING.

Three outside door checks were supplied and general repairs were made to joinery, plumbing and electric wiring.

Work done under the supervision of Wm. Henderson, resident architect, Victoria, B.C.

## GRAND FORKS.

### PUBLIC BUILDING.

This building, which was described in my annual report last year, is still in process of construction.

Plans, etc., prepared by this department.

Clerk of works, Geo. D. Clark.

Contractors, B. LeQuine.

## KAMLOOPS.

### PUBLIC BUILDING.

Alterations of and additions to fittings were made; an additional room was formed for caretaker; a new window was made in money order office; shelving in basement was removed and rebuilt, and there were supplied a hot-water radiator, three chairs, two desks, one screen, one table, one pigeon-hole case and six steel sections. Repairs and alterations were effected to key cupboard, lock boxes, drawers and clock, all under the supervision of Wm. Henderson, resident architect, Victoria, B.C.

## LADYSMITH.

### PUBLIC BUILDING.

Repairs were made to plumbing and drains, and lamps were supplied, under the supervision of Wm. Henderson, resident architect, Victoria, B.C.

## NANAIMO.

### PUBLIC BUILDING.

A tower was constructed and a tower clock was installed; new post office fittings were put in; owing to an explosion of dynamite in the harbour, which caused damage to the building, general repairs were effected; a concrete floor and a drain were laid in sub-basement for Fisheries Department; a room was partitioned off and painted, etc., in basement as an office for Dominion constable, and the room supplied with linoleum, desk and six chairs; the letter boxes and drawers in post office were cleaned, repaired, re-lettered and varnished; an office chair was supplied for the Marine and Fisheries Department, two door mats for the Customs Department, and there were supplied to the post office two tables, one case for stamps, one desk, three chairs, one brass rod and curtain, one rug, brass sign, one blind, cork linoleum, parcel racks and shelving in cupboard. The street letter boxes were painted and varnished, the flag pole painted, a ladder supplied, the water pipe in basement was altered and repairs were made to cement sidewalk, gutters and gas pipes.

Work done under the supervision of Wm. Henderson, resident architect, Victoria, B.C.

## NELSON.

### PUBLIC BUILDING.

Water and waste pipes for testing were fitted up in Customs offices; the mail room, main room and postmaster's room were painted and grained; the electrical work in Customs long room was changed; window shades were supplied; two storm porches were erected, and general repairs and renewals were made to joinery, plumbing, wiring, letter boxes, keys, doors and furniture, under the supervision of Wm. Henderson, resident architect, Victoria, B.C.

## NEW WESTMINSTER.

### PUBLIC BUILDING.

In the post office, alterations and repairs were effected; grille work on counter, a cupboard with door and shelves, a pigeon-hole rack, a radiator and coil, a chair, a table, a lock and shelves were supplied; a hardwood floor was laid; a stamp vendor's office was erected; the lock boxes were repaired and the street letter and parcel boxes painted and varnished. In the Public Works office, there were supplied two desks, two tables, five stools, three chairs, a waste paper basket and a desk re-covered. The flag pole was re-painted, lamps were supplied and repairs made to joinery, plumbing and wiring.

Work done under the supervision of Wm. Henderson, resident architect, Victoria, B.C.

### INDIAN AND FISHERIES BUILDING.

A typewriter desk, a filing cabinet and three sections were supplied, the flag pole was painted and the entrance doors were repaired, under the supervision of Wm. Henderson, resident architect, Victoria, B.C.

## REVELSTOKE.

### CHIEF FIRE RANGER'S OFFICE.

This is a rented building. There were supplied a wall clock, three chairs, two desks, a washstand, blinds, linoleum and lamps, under the supervision of Wm. Henderson, resident architect, Victoria, B.C.

## ROSSLAND.

### PUBLIC BUILDING.

The brickwork was tuck-pointed, a new furnace grate was supplied and repairs and renewals were made to plumbing and electric lighting, under the supervision of Wm. Henderson, resident architect, Victoria, B.C.

## VANCOUVER.

### NORTH VANCOUVER POST OFFICE.

This is the old town hall which was purchased from the corporation of the town. The branch post office is still in rented quarters until the necessary alterations are made.

### SUB-POSTAL STATION.

This is a rented building, used as a letter carriers' depot, situated on the corner of Main street and Seventeenth avenue. A safe, counter, six parcel cases, tables and trestles were supplied, under the supervision of Wm. Henderson, resident architect, Victoria, B.C.

NEW EXAMINING WAREHOUSE.

This building, which was described in my annual report last year, is still in process of construction.

ORIGINAL POST OFFICE.

Dampers were inserted in smoke pipes; stop cocks were placed on the different branches of the water service; the flag poles were painted and repairs made to slate roof, gutters, plumbing and electric wiring. The pipes and fixtures in the gas inspector's offices were removed down stairs; the electrical laboratory was fitted up, and there were supplied the Inland Revenue offices, instrument cases, cabinet for maps, a safe, three tables, a filling case of four sections and base top and sliding shelf. The assay office was painted.

Work done under the supervision of Wm. Henderson, resident architect, Victoria, B.C.

PUBLIC BUILDING.

The rooms and corridors throughout the building had the walls and ceilings cleaned and tinted or papered; the parapet wall of west end and part of Hastings street front was waterproofed and pointed; the corridors were laid with cork carpet; a new section of copper cornice was put in; the old footpath on street was taken up and replaced by new; the weather vane was taken down and reset with new bearings; a new section was put in heating furnace; two flag poles were painted; a box was supplied to cover elevator motor, and repairs were made to elevator, electric lighting, plumbing, cement footpaths, windows, furnace, heating system and radiators. To the post office were supplied one bag rack, one chair, new tires for wheels of large truck, four letter racks, new casters on basket trucks, metal signs and sixteen tables, and repairs were effected to window blinds, post office boxes and drawers, sorting racks, doors and wicket of general delivery; alterations were made to conduit wiring; two chutes were installed; the letter table in basement was extended; the sorting cases were shifted; a starting rheostat was put on old stamping machine; fixtures were moved from attic to basement and the street letter and newspaper boxes were painted. In the Customs offices the parcels department was fitted up, a partition was built in long room, three desks, seven chairs, a washstand, two steel cases, six stools and a wardrobe were supplied, a plate glass inserted in cashiers' counter, a cash cage set up in long room, two carpets cleaned, repaired and relaid, a clock supplied and a carpet supplied to long room, and the furniture repaired.

For the Indian Department a wardrobe and four chairs were supplied. For the Agriculture Department were supplied curtains with rings, a washstand, a desk, a chair, a cupboard, some Shannon files and some letter files, steel cabinet cases and guides, and a portable sulphur dioxide blast. For the Public Works office were supplied a letter press, a hat rail, a counter, a file rail and two stools.

Work supervised by Wm. Henderson, resident architect, Victoria, B.C.

## VERNON.

PUBLIC BUILDING.

This building, which was described in my report of last year, is completed.
Plans, etc., prepared by this department.
Clerk of works, F. B. Cossett.
Contractor, W. A. Coryderman.

## VICTORIA.

### EXAMINING WAREHOUSE.

This is a rented building which was fitted up for its purpose. A freight elevator was installed, the gaugers and appraisers offices were fitted up and furnished and stoves and pipes put in, all under the supervision of Wm. Henderson, resident architect. Victoria, B.C.

### MARINE BUILDING, OLD CUSTOM HOUSE.

A canopy and curtain were supplied for Health of Animals branch of Agriculture Department; three desks, three chairs, a stool and a filing cabinet were supplied to the Marine and Fisheries Department; the hydrant and piping at wharf were repaired; lamps were supplied, the flag pole was painted, and general repairs made to joinery.

Work done under the supervision of Wm. Henderson, resident architect, Victoria, B.C.

### OLD POST OFFICE.

The old gutters at rear of building were removed and replaced by galvanized gutters and conductor pipes, the roof was repaired and the flag pole painted, under the supervision of Wm. Henderson, resident architect, Victoria, B.C.

### IMMIGRATION HOSPITAL.

The walls, ceilings and floors of all rooms and corridors were painted; iron bars were affixed to windows to prevent escape of Orientals; a portable dioxide of sulphur blast for fumigating was supplied for C.P.R. wharf; fifteen lascar closets were supplied and installed; three desks, two stools, a pigeon-hole case for books, oak drawers with case, cupboard and shelving were furnished, and general repairs were effected to plumbing and tar and gravel roof.

Work done under the supervision of Wm. Henderson, resident architect, Victoria, B.C.

### PUBLIC BUILDING.

Extensive alterations and repairs were effected, including removal of division walls in post office, erecting steel beams and girders to carry ceiling joists and roof, extending post office box screen into addition, rearranging screen in money order office and registry office, removing gauger's office and fitting up same for assistant postmaster, fitting up premises vacated by appraiser for express parcels office and postmaster's office and transfering weights and measures office to top of building. Electric wiring in postal packets room was arranged in two circuits; the screen at letter carriers and parcel racks was removed and extra shelves and parcel racks supplied; the postal packet room was cleaned, tinted and painted; cluster lighting was installed on Government street; a scaffold was supplied to the caretaker; there were supplied for the post office, two cork carpets, a motor for stamping machine, seven tables, three desks, ten stools, three chairs and five bag racks; the street letter boxes were painted and repairs were made to the fittings and furniture. In the Customs, the freight elevator was largely renovated and repaired; shelving was fitted up in the record room, and there were supplied two desks, four chairs, a stool, two mats and blinds for windows. For the Inland Revenue offices, two desks, three chairs and a filing cabinet were supplied. Repairs were made to passenger elevator, heating, plumbing, joinery, glazing, lighting and flags.

Work done under the supervision of Wm. Henderson, resident architect, Victoria, B.C.

## WILLIAMS HEAD.

### QUARANTINE STATION.

A contract was entered into for the construction of recreation hall, addition to first-class detention building, bath house for first-class passengers and for steward's quarters. The position of sewer from caretaker's cottage to first-class passengers building was changed to suit addition to first-class passenger building; the locations of the hydrant houses were changed and the piping changed to suit; an electric lighting plant, with gasoline engine, was supplied and installed, including wiring; two guard boxes were erected; the lean-to of pilot's house and that of Japanese house were reshingled; the roof of isolation hospital and convalescent ward was slated; fences were repaired and in part renewed; cedar poles, cross-arms and telephone wires were supplied; a chimney pot was supplied; plaster was repaired, and three flag poles and two smoke-stacks were painted. Dr. Wall's residence, which was partially destroyed by fire, was practically rebuilt, painted inside and out, slated, had two extra lavatory basins and two baths fitted up, a separate w.c. and toilet for Chinamen, six chimney pots and fences about chicken yard and garden repaired. At Dr. Hunter's residence, the fence was repaired; at Dr. Wallace's residence, the fence, kitchen, larder and bath room repaired; and at Captain Riley's residence, the interior was cleaned and painted.

# YUKON TERRITORY.

## DAWSON.

### ADMINISTRATION BUILDING.

A furnace was put in at each end (north and south) of the building; the grounds were maintained, and usual and necessary repairs were made to the building.

Work supervised by Ernest Rivard, superintendent of works and buildings, Yukon Territory.

### COMMISSIONER'S RESIDENCE.

An extension was made to the greenhouse, considerable repairs and additions were made to heating apparatus, the grounds were maintained, and usual and necessary repairs and renewals were made to the building.

Work supervised by Ernest Rivard, superintendent of works and buildings, Yukon Territory.

### POST OFFICE.

Usual and ordinary repairs and renewals were effected, under the supervision of Ernest Rivard, superintendent of works and buildings, Yukon Territory.

### GOVERNMENT WAREHOUSE.

Minor repairs were effected, under the supervision of Ernest Rivard, superintendent of works and buildings, Yukon Territory.

## GLACIER CREEK.

### MINING RECORDER'S OFFICE.

Minor repairs were effected, under the supervision of Ernest Rivard, superintendent of works and buildings, Yukon Territory.

## DOMINION PUBLIC BUILDINGS, UNDER THE SUPERVISION OF THE CHIEF ARCHITECT, DEPARTMENT OF PUBLIC WORKS.

In addition to these public buildings, there are the penitentiaries, military stores, barracks, military schools, drill halls, and Indian schools.

### NOVA SCOTIA.

| Place. | Building. |
|---|---|
| Amherst | Public building. |
| Annapolis | do |
| Antigonish | do |
| Arichat | do |
| Baddeck | do |
| Bridgewater | do |
| Canso | do |
| Dartmouth | do |
| Digby | do |
| Glace Bay | do |
| Guysborough | do |
| Halifax | Cattle quarantine. |
| do | Custom-house. |
| do | Examining warehouse. |
| do | Detention hospital. |
| do | Dominion building. |
| do | Quarantine (Lawlor's island) buildings. |
| do | Immigration building. |
| Inverness | Public building. |
| Kentville | do |
| Lunenburg | do |
| Liverpool | do |
| Nappan | Experimental farm buildings. |
| New Glasgow | Public building. |
| North Sydney | do |
| do | Immigrant shed. |
| Parrsboro | Public building. |
| Pictou | Post office. |
| do | Custom house. |
| Shelburne | Public building. |
| Springhill | do |
| Sydney | do |
| do | Quarantine station buildings. |
| Sydney Mines | Public building. |
| Truro | do |
| Westville | do |
| Windsor | do |
| Wolfville | do |
| Yarmouth | do |

### PRINCE EDWARD ISLAND.

| | |
|---|---|
| Charlottetown | Dominion building. |
| do | Old Bank of Commerce building. |
| Georgetown | Public building. |
| Montague | do |
| Summerside | do |
| Souris | do |
| Tignish | do |

### NEW BRUNSWICK.

| | |
|---|---|
| Bathurst | Public building. |
| Campbellton | do |
| Carleton | do |
| Chatham | do |

NEW BRUNSWICK—*Concluded.*

| Place. | Building. |
|---|---|
| Chatham | Quarantine station (Middle island). |
| Dalhousie | Public building. |
| Fairville | do |
| Fredericton | do |
| Grand Falls | do |
| Hartland | do |
| Hillsborough | do |
| Marysville | do |
| Moncton | do |
| Newcastle | do |
| Richibucto | do |
| Sussex | do |
| St. Stephen | do |
| St. John | Custom-house. |
| do | Post office. |
| do | Immigration building. |
| do | do |
| do | Quarantine station. |
| do | Savings bank. |
| do (West) | Post office. |
| Tracadie | Lazaretto. |
| Woodstock | Public building. |

QUEBEC.

| | |
|---|---|
| Acton Vale | Public building. |
| Arthabaska | do |
| Aylmer | do |
| Berthierville | do |
| Buckingham | do |
| Chicoutimi | do |
| Coaticook | do |
| Cookshire | do |
| Drummondville | do |
| Dundee | Custom house. |
| Farnham (West) | Public building. |
| Fraserville | do |
| Granby | do |
| Grosse Isle | Quarantine buildings. |
| Hull | Public building. |
| Iberville | do |
| Joliette | do |
| Knowlton | do |
| Lachute | do |
| Laprairie | do |
| Lévis | do |
| Longueuil | do |
| L'Assomption | do |
| Magog | do |
| Maisonneuve | Post office. |
| Marieville | Public building. |
| Mégantic | do |
| Montmagny | do |
| Montreal | Central post office. |
| do | Postal station 'B' (Ste. Catherine St.). |
| do | do 'C' (Hochelaga). |
| do | St. Henri postal station. |
| do | St. Louis du Mile End, postal station 'E'. |
| do | Point St. Charles, postal station 'D'. |
| do | Detention hospital. |
| do | Custom house. |
| do | Express building, D'Youville Place. |
| do | Examining warehouse. |
| do | Inland Revenue building. |
| Nicolet | Public building. |
| Péribonka | Immigration building. |
| Pierreville | Public building. |
| Plessisville | do |
| Quebec | Citadel, H. E. quarters. |
| do | Custom house. |
| do | Cullers office. |

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QUEBEC—*Concluded.*

| Place. | Building. |
|---|---|
| Quebec | Detention hospital. |
| do | Examining warehouse. |
| do | Immigration building. |
| do | Marine building, (old custom house). |
| do | Observatory. |
| do | Post office. |
| do | St. Roch's post office. |
| Richmond | Public building. |
| Rigaud | do |
| Rimouski | Post office. |
| Rock Island | Public building. |
| Roberval | do |
| do | Immigration building. |
| St. Hyacinthe | Public building. |
| do | Inland Revenue. |
| St. Johns | Custom house. |
| do | Post office. |
| St. Jérôme | Public building. |
| St. Lambert | do |
| Ste. Thérèse | do |
| Shawenegan Falls | do |
| Sherbrooke | do |
| Sorel | do |
| Terrebonne | do |
| Thetford Mines | do |
| Three Rivers | do |
| Valleyfield | do |
| Victoriaville | do |
| Westmount | do |

ONTARIO.

| | |
|---|---|
| Alexandria | Public building. |
| Almonte | do |
| Amherstburg | do |
| Arnprior | do |
| Barrie | do |
| Berlin | do |
| Belleville | do |
| Bowmanville | do |
| Brampton | do |
| Brantford | do |
| Bridgeburg | do |
| Brockville | do |
| Carleton Place | do |
| Cayuga | do |
| Chatham | do |
| Chesley | do |
| Clinton | do |
| Cobourg | do |
| Cornwall | do |
| Deseronto | do |
| Dresden | do |
| Dundas | do |
| Elora | do |
| Essex | do |
| Fort William | do |
| Fergus | do |
| Galt | do |
| Glencoe | do |
| Goderich | do |
| Guelph | do |
| Harriston | do |
| Hawkesbury | do |
| Ingersoll | do |
| Kenora | do |
| Kingston | Post office. |
| do | Custom house. |
| Kincardine | Public building. |
| Leamington | do |
| Lindsay | do |

ONTARIO—*Continued.*

| Place. | Building. |
|---|---|
| Listowell | Public building. |
| London | Custom house. |
| do | Post office. |
| Markham | Public building. |
| Mitchell | do |
| Mount Forest | do |
| Napanee | do |
| Niagara Falls | do |
| North Bay | do |
| Orangeville | do |
| Orillia | do |
| Oshawa | do |
| Ottawa | Archives building. |
| do | Central experimental farm. |
| do | Eastern Block (departmental building). |
| do | Fuel testing plant. |
| do | Fisheries museum. |
| do | Government workshops. |
| do | Government house. |
| do | Langevin Block, (departmental building). |
| do | Mines Department building. |
| do | Parliament building. |
| do | Post Office building. |
| do | Royal mint. |
| do | Refinery. |
| do | Royal Observatory. |
| do | Royal Victoria museum. |
| do | Supreme Court. |
| do | Western Block (departmental building). |
| Owen Sound | Public building. |
| Parkhill | do |
| Paris | do |
| Pembroke | do |
| Petrolea | do |
| Peterborough | do |
| do | Custom house. |
| Port Arthur | Public building. |
| Port Colborne | do |
| Port Hope | do |
| Port Perry | do |
| Prescott | do |
| Picton | do |
| Renfrew | do |
| Sandwich | do |
| Sault Ste. Marie | do |
| Sarnia | do |
| Seaforth | do |
| Simcoe | do |
| Smith's Falls | do |
| St. Catharines | do |
| St. Mary's | do |
| St. Thomas | do |
| Strathroy | do |
| Stratford | do |
| Tilbury | do |
| Tillsonburg | do |
| Toronto | General post office. |
| do | Examining warehouse. |
| do | Custom house. |
| do | Inland Revenue. |
| do | Observatory. |
| do | Postal Station 'A'. |
| do | do 'C'. |
| do | do 'D'. |
| do | do 'F'. |
| do | do 'K'. |
| Trenton | Public building. |
| Uxbridge | do |
| Walkerton | do |
| Waterloo | do |
| Welland | do |

SESSIONAL PAPER No. 19

ONTARIO—*Concluded.*

| Place. | Building. |
|---|---|
| Whitby | Public building. |
| Windsor | do |
| Wingham | do |
| Woodstock | do |

MANITOBA.

| | |
|---|---|
| Brandon | Public building. |
| do | Immigration hall. |
| Dauphin | Public building. |
| Emerson | do |
| Minnedosa | do |
| Morden | do |
| Neepawa | do |
| Portage la Prairie | do—(new) |
| do | do |
| St. Boniface | do |
| Selkirk | do |
| Souris | do |
| Winnipeg | Old Post office. |
| do | Custom house. |
| do | Examining warehouse. |
| do | New post office. |
| do | New examining warehouse. |
| do | Postal Station 'B'. |
| do | Immigration Buildings, Nos. 1, 2, 3, 4 and 5. |

SASKATCHEWAN.

| | |
|---|---|
| Battleford | Public building. |
| Estevan | do |
| Humboldt | do |
| Lloydminster | do |
| Melfort | do |
| Maple Creek | do |
| Moosejaw | Post office. |
| Prince Albert | Public building. |
| Regina | do |
| do | Land office. |
| do | Post office. |
| Saskatoon | Public building. |
| Yorkton | do |
| Weyburn | do |
| Willow Creek | Cattle quarantine. |

ALBERTA.

| | |
|---|---|
| Calgary | Post office. |
| do | Examining warehouse, (in progress). |
| Edmonton | Post office. |
| do | Dominion lands. |
| Gravelbourg | Post office and telegraph office. |
| Indian Head | Experimental farm buildings. |
| do | Forestry station boarding house. |
| Lethbridge | Public building. |
| Medicine Hat | do |
| Moosejaw | do |
| Red Deer | Court house. |
| Strathcona | Public building. |
| Wetaskiwin | do |

BRITISH COLUMBIA.

| | |
|---|---|
| Atlin | Post office. |
| Chilliwack | Public building. |
| Comox | Post office. |
| Cranbrook | Public building. |
| Cumberland | do |
| Fernie | do |

BRITISH COLUMBIA—*Concluded.*

| Place. | Building. |
|---|---|
| Grand Forks | Public building. |
| Kamloops | do |
| Ladysmith | do |
| Nanaimo | do |
| New Westminster | do |
| do | Indian building, etc. |
| Nelson | Public building. |
| Prince Rupert | Quarantine station hospital. |
| Rossland | Public building. |
| Vancouver | Examining warehouse. |
| do | New public building. |
| do | Public building. |
| do (North) | do |
| Victoria | Immigration hospital. |
| do | Old custom house. |
| do | Public building. |
| do | Old post office. |
| Vernon | Public building. |
| Williams Head | Quarantine station. |

YUKON TERRITORY.

| | |
|---|---|
| Dawson | Administration building. |
| do | Government House (Commissioner's resid.). |
| do | Post office. |
| do | Court house. |
| do | Government warehouse. |
| Glacier Creek | Mining record office. |
| Kluhane | Mining record office. |

# PART IV

# CHIEF ENGINEER'S REPORT

ON

# HARBOUR AND RIVER WORKS

INCLUSIVE OF

## GRAVING DOCKS AND DREDGING OPERATIONS

ALSO

ROADS, BRIDGES AND SURVEYS THROUGHOUT THE DOMINION.

# REPORT OF THE CHIEF ENGINEER

Department of Public Works of Canada,
Chief Engineer's Office,
Ottawa, August 11, 1913.

R. C. Desrochers, Esq.,
Secretary,
Department of Public Works.

Sir,—I have the honour to submit the annual report on the various works under my charge during the fiscal year ended March 31, 1913.

These works comprise the construction and repair of wharfs, piers, breakwaters, dams, weirs, bank and beach protection works; the improvement of harbours and rivers by dredging; the construction, maintenance and operation of Government dredging plant; the construction and maintenance of graving docks; the construction, maintenance and working of slides and booms; the construction and maintenance of interprovincial bridges and approaches thereto, and of bridges on highways of federal importance in the Northwest Territories, and the maintenance of military roads; also hydrographic and ordinary surveys and examinations, inclusive of precision levelling and geodetic measurements which are required for the preparation of plans, reports and estimates; the testing of cements, etc.

I have the honour to be, sir,
Your obedient servant,

EUG. D. LAFLEUR,
*Chief Engineer.*

## PROVINCE OF NOVA SCOTIA.

### ABERCROMBIE.

Abercrombie is a settlement of about 150 inhabitants on the side of the harbour opposite to, and one mile distant from, Pictou.

During part of the season of 1912, July 1 to August 17, the dredge *George McKenzie* was engaged in deepening to 8 feet at L.W.S., a basin at outer end of public wharf, and deepening and widening the channel to a depth of 8 feet at L.W.S. and to a width of 35 feet. The area dredged over was 18,000 superficial feet. The quantity of material removed was 5,410 cubic yards, measured in place, or 6,280 cubic yards, scow measurements.

AMAGUADEES POND.

Amaguadees pond (Castle bay), Cape Breton county (North), is on the northern side of East bay, the eastern arm of the Great Bras d'Or lake.

The works consist of a block and span wharf, 192 feet in length and 20 feet in width, extending to 14 feet at low lake level, with a warehouse thereon, 10 by 16 feet, for the storing of goods shipped and landed by the ss. *Bluehill,* which, during the season, calls here fortnightly and makes connection with the International railway at Grand Narrows.

The department also constructed a bridge 100 feet long, including approach, and 20 feet wide, across the outlet of the pond, and a road, to connect the wharf with the public road, about half a mile in length.

During the present fiscal year, the sum of $300.04 was expended by day labour in improving the road leading from the public wharf to the public road, and in raising and repairing a small bridge.

AMHERST.

Amherst harbour is situated at the head of Chignecto bay, near the mouth of the La Planche river, about 2½ miles from Amherst. The town of Amherst is probably the most important, prosperous and thriving industrial town in the province of Nova Scotia. It is a manufacturing centre of considerable magnitude, and efficient water transportation would consequently augment its future advancement. Its population is in the vicinity of 11,500.

In the year 1904, a pile wharf was constructed, which consists of a stem running from the dyke to the edge of the channel, 249 feet in length, with a depth of 36 feet, and a wharf proper which begins at the outer end of this stem and runs seaward a distance of 300 feet along the inner edge of the channel. This wharf proper is 50 feet wide, has a common height of 44 feet at its outer face and 28 feet on its inner face.

In the fiscal year 1907-8, another wharf was constructed, situated about 350 feet farther up stream than the old work. This second pier is 360 feet in length, 64 feet in width and has a height, at its outer face, of 28 feet. It is constructed of pile trestle bents, separate 8 feet apart, whilst the piles in these bents are distant from each other 7½ feet, measured between centres. The front of this work and the end are close-piled, whilst pier No. 1 is sheathed with 4-inch sheathing and double fendered. During the last fiscal year, nothing was done with this work, because dredging operations in the near vicinity were being performed. It was therefore not deemed advisable to commence this work until after these were completed.

During the past winter, a special report has been made upon the requirements of Amherst harbour, so that the expenditure upon this wharf has been rendered unnecessary. Tides rise here: spring 40 feet, neap 33 feet.

*Dredging.*

Amherst harbour is situated at the head of the Bay of Fundy, at the mouth of the La Planche river. The site of the dredging is about 2½ miles in a direct line from Amherst town, and 4 miles by post road. The population of this enterprising town is now about 11,500. It is the county seat of Cumberland county.

The shipping at this port ordinarily consists of tern, or three-masted schooners, and steamers. The schooners are from six to twelve hundred tons burden.

The entrance to this harbour is contracted, and it was deemed necessary to cut off a corner of the point at the said entrance; the said section was estimated to contain in all 12,000 cubic yards, place measurement. During the last fiscal year, 8,652 cubic yards, scow measurement, were removed, for which $5,623.80 was paid, at the rate of 65 cents per cubic yard, which was the amount of the contract price. The work was commenced on August 1, and continued until December 7, when weather conditions,

together with the disablement of scow machinery, rendered it useless to continue the work. The material consisted of a mixture of clay and mud, and whilst the top 2 or 3 feet was easy of removal, the balance was of such a consistency that it resisted the attacks of the bucket, and had to be loosed in many instances by dynamite. Spring tides rise here 40 feet; neap, 30 feet.

AMHERST POINT.

Amherst Point is a farming settlement of some 400 people, situated about three miles south of Amherst town. At the end of the year 1907-8, a crib-work wharf was completed. The outside and up-stream end had been scoured considerably, with the result that the wharf had settled seriously, and much grave damage was effected. Work was commenced here on September 24, 1912, and completed on December 19, 1912, the total expenditure being $503.37. Between the time representations were made concerning the amount required to repair this damage and the time the work was commenced, more scouring had taken place and a greater amount of settling, so that the amount of work required to be done exceeded considerably the amount first estimated. The outside face of the outside blocking, and the seaward face of the same blocking had to be buttressed up by means of piles driven outside and mattresses of brush and stone placed underneath, and filling in the hole scoured out by the action of the tide. For a distance of 15 feet each way this was necessary to be done. A number of fenders had to be placed on both the outside and the seaward face, and the work on top, for 30 feet each way at the outside end, had to be raised 2½ feet, ballasted and replanked. Spring tides rise 40 feet; neap, 33 feet.

ANDERSON'S COVE.

Anderson's cove, Annapolis county, is a very slight indentation in the coast line, on the south side of the Bay of Fundy, 16 miles east of Digby Gut, 2 miles east of Litchfield, and 5 miles west of Parker's Cove. The settlement, which is called Hillsburn, comprises within a radius of a mile, about 150 people, dependent almost exclusively on the fisheries for a living.

In order to afford some measure of protection and shelter for the fishing boats, which were often broken or destroyed for lack of shelter, the department, in 1905-6, began the construction of a breakwater, which was extended in 1906-7, in 1908-9, 1909-10, 1911-12 and again in 1912-13.

In 1912-13, the sum of $2,999.59 was expended in completing the extension, 42 feet long, built in 1911-12, and in the construction of a further extension, 60 feet long, 26 feet wide and from 20 to 25 feet high.

The whole breakwater is now 414 feet long, 26 feet wide and from 7 to 25 feet high, substantially built of native timber cribwork, full fendered and ballasted. Spring tides rise about 28 feet.

ANNAPOLIS.

Annapolis Royal, Annapolis county, is the oldest town in the province of Nova Scotia, having been founded in 1605. It is beautifully situated at the head of Annapolis basin and on the south side of the Annapolis river. It has a population of about 2,000 and is in the centre of one of the most fertile districts of Nova Scotia.

In 1905-6, the department expended $9,346.22 in building a landing pier on the side of a very ancient one. (For particulars see Annual Report, 1909-10.)

*Ice Piers.*

In 1907-8, the department began the construction of a line of ice piers across the river, about a quarter of a mile above the town wharfs, with the object of preventing

ice from drifting down and endangering shipping, the expenditure in that year being $12,942.59 for the purchase of creosoted timber. On the 18th of May, 1909, a contract for the construction of the first three piers, on the Annapolis side of the river, was signed by the Nova Scotia Construction Company, of Sydney, N.S., for the sum of $46,736. The contract was completed in August, 1910.

In March, 1911, a contract was awarded to E. R. Reid in the sum of $37,300, for the construction of piers 4 and 5, which were completed on the 17th of August, 1912.

These piers are all of the same type of construction. In height they are from 35 to 75 feet, the upper 27 feet being, in every case, of concrete or from 5 feet above low water to 5 feet above high water. (Spring tides rise 27 feet.) The lower portion of each pier is constructed of creosoted square timber, filled with stone ballast. The base of each pier is protected all around by a talus of rip-rap. The corners of each pier are protected by birch sheathing and boiler plate. All the piers are rectangular in section, from 8 to 13 feet wide on top and 27 feet long. Owing to the great range of tide and alternating velocity of nearly 9 feet per second, the work was carried on under considerable difficulty.

### ARICHAT.

Arichat, the shire town of Richmond county, is situated on the northern shore of Arichat harbour, on the southern side of Madame island.

The harbour, which is spacious, is well sheltered by outlying islands, and has two entrances, of which the western, although only about 600 feet in width, is the easiest to make; the southern entrance is about 1,800 feet wide, but it lies between shoals.

On July 13, 1910, a contract was entered into for the construction of a wharf and warehouse thereon, for the sum of $16,176. The work of construction was commenced on September 23, 1910, and was completed on September 8, 1911.

The work consists of a stone approach, 131 feet in length and 30 feet in width; of a block and span wharf, 144 feet in length and 30 feet wide, with an 'L' also consisting of block and span work, 90 feet long and 50 feet wide, and of a warehouse 80 feet long and 25 feet wide, placed on the 'L.' The channel face of the wharf has a length of 120 feet with a depth of 19 feet at low water, and the blocks, which consist of round timber cribwork, have creosoted timber substructure.

During 1912-13, the sum of $600 was expended by day labour in procuring all the materials, including the necessary cement required, for the construction of a stone and concrete retaining wall, 80 feet in length along the harbour front of the Government property, but owing to the difficulty of obtaining proper stone, only 40 feet of the wall could be finished.

### ARNOLD COVE.

Arnold's Cove is situated on the eastern side of Jeddore harbour, 4 miles below Oyster Ponds, and 45 miles east of Halifax. It is used by the fishermen as a place of shelter in stormy weather,

The object of the work is, by deepening the cove, to provide safe anchorage for the fishing boats.

During the past fiscal year, 45,000 cubic yards of sand and mud were removed between the middle of November and December, at a cost of 29 cents a cubic yard, scow measurement.

### AVONPORT.

Avonport, Kings county, is a small farming village with a population of about 250, situated on the left or south side of the river Avon, near its mouth, and on the D. A. Ry., 12 miles northwest from Windsor, the county town of Hants. Some two of three millions of bricks are annually made here, and shipped. A small wharf of

crib-work was built before Confederation, 300 feet long, 22 to 25 feet wide on top and 17 feet high at the outer end, which is dry at L.W.O.S.T. Spring tides rise about 45 feet.

Since the department took this work over in about 1880, it has had numerous small expenditures in repairs and renewals, of which particulars will be found in the departmental reports for 1908-10.

In 1912-13, the sum of $2,000 was expended in building an extension to the wharf. The new block being 36 feet long, on the upper side; 42 feet on the lower side; about 40 feet wide, and from 17 to 19 feet high. Miscellaneous repairs were also made to the older portion of the work, including 54 feet in length of close sheathing.

AVON RIVER.

Avon river, Hants county, is an important tidal river flowing into the Basin of Minas. A little below the bridge spanning the river at Windsor, the county town, the department maintains a shear dam. The scour created by this work caused the undermining of the western abutment and pier of the Avon bridge and in the fiscal year 1912-13, the department, to prevent further damage to the bridge and to protect the western bank of the river, expended the sum of $2,028.94. The work done consists of brush protection work 1,500 feet long, built in sections 50 to 100 feet in length by 25 feet in width and 20 feet deep. Opposite the Government wharf, an additional block was placed, measuring 100 feet in length, 50 feet in width and 3 feet in depth. The work appears to be fulfilling the purpose for which it was intended. The brush was put down in sections 2 feet deep, this, after two or three tides, was covered with mud to a depth of about 2 feet when another layer of brush was added and so on until the depth of 20 feet was filled in.

Work was begun November 19, 1912, and completed January 31, 1913.

BADDECK.

Baddeck, the shire town of Victoria county, is on the northern shore of the Little Bras d'Or lake, near the entrance to St. Patrick's channel.

During 1907-8, a wharf, 284 feet in length and extending to 18 feet at low lake level, was constructed by the department. It consists of a road approach 64 feet in length and 30 feet in width; of cribwork with creosoted timber substructure, 50 feet in length and 48 feet in width; of a creosoted timber pile extension, 170 feet long and 40 feet wide with two boat landing stages, respectively 32 and 64 feet in length and 8 feet wide, one on either side of the inner end of the wharf and built on creosoted timber pile foundation.

The top of the wharf is 5 feet above the low level of the lake, which rises about 15 inches.

During 1908-9-10, the wharf property was fenced in, drained, raised and levelled; the old warehouse was repaired and fitted up for office, waiting room and baggage room; a new freight warehouse, 48 by 24 feet, was constructed on the inner end of the wharf, and cribwork retaining wall was partly built on the harbour front of the property.

During the fiscal year ended March 31, 1913, the sum of $399.97 was expended by day labour in the completion of the cribwork, wharfing and retaining wall, and in painting the fencing around the property.

*Dredging.*

For the purpose of removing ballast heaps, remains of old cribworks, scattered about the harbour and which interfered with the free navigation, the departmental dredge *Cape Breton* was ordered to Baddeck, and between the 1st and 10th of June, 1912, she effected the necessary improvement by removing some 4,900 cubic yards, scow measure, of stone and old logs.

BASS RIVER.

Bass River, Colchester county, is a farming and manufacturing village of about 500, situated on the north side of Cobequid bay, the eastern arm of the Bay of Fundy. It is half way between Truro and Parrsboro, or about 28 miles from each place.

In 1894-5, the department built, by contract, at a cost of $3,240, a public wharf of pile-work, 210 feet long, 40 feet wide with an 'L' on the outer end 55 feet long and 40 feet wide. At the outer end of the 'L' it was found necessary to build a small block of crib-work containing 8,000 cubic feet, on account of the hard nature of the bottom preventing piles from being driven to the proper depth. The outer face of the work is 25 feet in height, giving a depth of 22 feet at H.W.O.S.T. In the fiscal year 1901-2, the department expended the sum of $1,099.11 in extending the pile wharf. The extension is 40 feet square, substantially built of pile-work and giving the wharf the shape of the letter 'T.' A small freight shed was also built on the wharf for the accommodation of shippers and merchants. Since that date, several sums have been expended in repairs to the work, and in the year 1911-12, the sum of $709.33 was expended in repairs and renewals to the stem of the wharf, the whole of the planking, guard timbers and stringers, and some of the caps, being renewed.

In the fiscal year 1912-13, the sum of $1,849.90 was expended in miscellaneous repairs to the wharf and in the construction of an addition to the wharf, measuring 40 feet in length and 18 feet in width. Work begun June 17, completed October 25.

BATTERY POINT.

Battery Point, Annapolis county, is a fishing settlement of about 150 people, situated on the east side of Digby Gut, about 4 miles northeast from the town of Digby, and 16 miles southwest from the town of Annapolis.

In 1904-5, the department began the construction of a breakwater for the protection of the fishing fleet, comprising some forty or fifty boats. The work was extended in 1905-6, 1906-7, and in 1910-11, and the work is now 190 feet long, from 8 to 29 feet high and 26 to 30 feet wide, substantially built of native timber cribwork, filled with ballast and with the lower portion protected by four inch creosoted sheathing, as a protection against the limnoria.

In 1911-12, the department, under an expenditure of $2,709.87, began the construction of a second breakwater a couple of hundred feet to the south of the existing work, for the purpose of affording shelter from southerly weather.

In 1912-13, the sum of $2,598.89 was expended in extending the south breakwater by an additional block 70 feet long, 30 feet wide and from 22 to 29 feet high. The work will need a further extension before it is of very much use. Work was begun about the middle of April and suspended for the season at the end of August, 1912, the appropriation being exhausted, but the work was not quite completed.

BEAR COVE.

Bear cove, Digby county, is a slight indentation in the coast of St. Mary's bay, Bay of Fundy, 23 miles north of Yarmouth and equidistant from Cape Cove on the south and Meteghan on the north, being about 5 miles from each. The population of the settlement, within a radius of a mile, comprises a couple of hundred people, chiefly dependent on fishing for a living.

In 1906-7, the department built a breakwater, by contract, at a cost of $5,748.92. The cribwork portion of the breakwater is 160 feet long, from 20 to 28 feet wide and

from 8 to 16 feet high. The rock bank approach is 120 feet long, 20 feet wide and from 3 to 8 feet high.

In 1908-9, the sum of $599.69 was expended in replacing with cribwork 100 feet in length of the stone bank approach.

In 1910-11, the sum of $396.27 was expended in excavating some ledge rock alongside the work for the purpose of affording more space for boats stranding.

In 1912-13, the sum of $500.03 was expended in the blasting and removal of a further quantity of ledge rock, comprising about 450 cubic yards from alongside the work, to improve the berth for fishing boats. Spring tides rise 18 feet.

### BEAR RIVER.

Bear River, Digby county, with a population of about 1,500 people, is situated on the river of the same name, three miles and a half above its mouth, where it debouches into the Annapolis basin. At this place, a large lumber business is carried on, the annual shipments aggregating about 8,000,000 feet B.M., being exported mostly to West Indian and South American ports. The village is half in Annapolis and half in Digby county, the river forming the county line. It is fifteen miles south of Annapolis. At high water, the river is navigable for vessels drawing about 16 feet of water (spring tides rise 27 feet), and at low tide there is only a fresh water flow of some 3 or 4 feet in depth, at the village, and vessels loading lumber lie aground at the wharfs.

In 1912-13, the department expended the sum of $4,667.07 in purchasing a wharf property and in beginning the construction of a public wharf for the convenience of local trade and shippers. Of this amount, $1,800 went to purchase the property and $2,867.07 for the taking down and rebuilding of the old wharf on the property. The new wharf, which is not yet finished, is substantially built of native timber cribwork, 85 feet long on the river front, by a width of 20 feet and a height of from 22 to 24 feet.

### BELLIVEAU'S COVE.

Belliveau's Cove, Digby county, is situated on the eastern shore of St. Mary's bay, Bay of Fundy, four miles southwest from Weymouth. It has a population of about 300 people, engaged in fishing, farming and general trade. The harbour, which is dry at low water (spring tides rise 20 feet) is formed by two piers or breakwaters, the northern built in 1825 and the southern in 1853, both at the joint expense of the inhabitants and the provincial Government. The protected area is about 3 acres in extent, for the greater part of which is a depth of 12 to 14 feet of water at H.W.O.S.T.

Since 1878, the department has made numerous small expenditures in repairs, renewals and extensions to both breakwaters, of which a full account will be found in the departmental reports for 1908-9.

In 1912-13, the department expended the sum of $1,700 in deepening the berth alongside both breakwaters, by means of hand digging; the material, sand, gravel and mud, being removed in carts.

### BIG LORRAINE.

Big Lorraine, Cape Breton county, is an important boat harbour on the southern shore of the island of Cape Breton, about 3 miles to the eastward of Louisburg harbour.

On July 20, 1910, a contract was entered into with W. P. Cann and L. McLean for dredging a channel 820 feet in length, 40 feet in width at the bottom and to a depth of 8½ feet below low water across the bar at the entrance to the harbour, but the work was not completed during the year 1910-11.

During the year 1911, the contract was transferred to the Atlantic Dredging Company, of Louisburg, and this company's dredge *Quincy* and plant, commenced operations on the channel on October 9, 1912, and continued until November 22 fol-

lowing, when the work under contract was completed. The material removed during 1912-13 consisted of 608 cubic yards, scow measure, of rock, and 3,358 cubic yards, scow measure, of sand and gravel, the rate for the former being $5 and for the latter 75 cents per cubic yard; the whole aggregating the sum of $5,558.50.

BLACK POINT.

Black point, Richmond county, is on the southern or Atlantic shore of the island of Cape Breton, about 15 miles to the eastward of the entrance to St. Peter's canal.

On the 26th day of November, 1910, a contract, in the sum of $7,166, was entered into with A. W. Gerroir and K. Sweet, of Antigonish, N.S., for the construction of a breakwater on the northern side of the point, to protect the anchorage for fishing boats.

The work of construction was commenced on July 20, 1911, and was satisfactorily completed on November 11.

The breakwater is 378 feet in length and extends to 6 feet at low water. The inner end, for a distance of 150 feet, is 16 feet wide, and the outer end, 24 feet wide; the work consists of a round timber cribwork structure with creosoted timber substructure, solidly ballasted and close-sheathed on the seaward face and outer end.

Spring tides rise 4½ feet; neaps, 3½ feet.

During 1912-13, the sum of $500 was expended by day labour in replacing ballast in the outer end of the breakwater, which had been washed out during a heavy gale.

BLANCHE.

Blanche is a small settlement situated at Green point on the western side of the entrance to Negro harbour. It is a fishing settlement of about 350 people, and during the last fiscal year, the department began the construction of a breakwater in order to protect the landing on the beach, which was the only place the fishermen had in that vicinity for such purposes. In ordinary weather, the landing could be utilized, but in any heavy sea or wind, danger both to the boats and to the fishermen's lives in either making a landing or leaving the shore in order to conduct fishing operations, existed. In order to prevent this, it was decided to construct a breakwater or beach protection.

During the past fiscal year, the amount of $1,998.90 was expended in connection with this work. It was commenced on September 16, and work ceased on October 11, 1912.

The proposed work was to be 300 feet in length, constructed of cribwork 8 feet wide on top and 12 feet high. This work was filled to the top with ballast, double fendered and both sides very strongly fastened. Material was purchased to construct the entire work, but only 160 feet in length was constructed, leaving 140 feet yet to be built, for which the material, as stated before, is on hand. The workmanship has been of a good character, and the work itself is substantial in every respect. A further sum of $800 has been asked to complete this work. Spring tides rise 8 feet; neap, 5½ feet.

BOISDALE.

Boisdale, Cape Breton county, is situated on the southeast side of St. Andrew's channel, an arm of the Little Bras d'Or lake, about 50 miles northeast of Grand Narrows, and is a station on the Intercolonial Railway.

On March 15, 1906, a contract was entered into for the construction of a wharf, extending to 11 feet at low water, 187 feet in length and 20 feet in width, with an 'L' at the outer end, 20 by 20 feet, constructed of round timber laid open-faced with creosoted timber substructure, and the work was satisfactorily completed during 1906-7.

During a very heavy gale in the spring of 1911, the wharf was carried away by ice, and for the purpose of reconstructing it, the sum of $5,000 was voted.

Plans and specification for the construction of the new wharf were prepared and submitted to the department. Tenders for its construction were called for and received, but the contract was not awarded, and no part of the amount voted was expended.

### BREEN'S POND.

Breen's pond, Antigonish county, is on the southern shore of St. George's bay, near the extremity of a headland to the westward of Harbour au Bouche, known locally as Cape Jack.

A contract was entered into on the 8th of August, 1911, for the construction of a breakwater 435 feet in length and 20 feet in width, with creosoted substructure, extending to 9½ feet at L.W.S., for the sum of $13,190. Spring tides rise 5 feet.

Work of construction was commenced August 23 and suspended September 30, 1911, when the expenditure on contract and for inspection amounted to $598.48.

The work under contract was resumed June 3, and completed November 22, 1912.

### BROOKLYN.

Brooklyn, or Herring cove as it was formerly called, is situated on the eastern side of Liverpool harbour. Owing to the existence of a sand bar and the contracting shape of the harbour, this cove has been the only safe anchorage in the bay, when properly protected. The village is a fishing and farming settlement, some lumbering being done as well, and has a population of about 400.

During the past fiscal year, the sum of $698.57 was expended in the work of dredging, by hand, a channel at the upper portion of the harbour or mouth of the small river which runs into this harbour. A loading pier running along the side of this brook, for a distance of about 400 feet, has been constructed, the end of it running to low water mark. In order that this loading pier might be utilized to a greater extent, this channel, for about 600 feet of its length, required deepening to the extent of about 2 feet, with a common width of 25 feet. In undertaking this work, permission was granted by the owners of the loading pier for the fishermen in that vicinity to use the same, which is of great convenience to about 25 fishermen living there. This work was commenced on June 8, and completed on August 31, 1912. It has been satisfactorily performed. Spring tides rise 7 feet; neap, 4½ feet.

#### *Breakwater.*

In the year 1897, this department constructed a breakwater which cost in the vicinity of $70,000. It was constructed of cribwork, but owing to the presence of the *Teredo navalis,* the logs of the cribwork were eaten away, and the entire structure became demolished, so that the old work is a menace to navigation and is no longer a protection. This harbour or place of call, if proper protection were afforded, would be the only shelter for the vast amount of navigation on the Atlantic coast of Nova Scotia between the ports of Halifax and Shelburne, and it is therefore not only of local but of national importance. On September 9, 1911, a contract was let to the Nova Scotia Construction Company, Ltd., for the construction of a concrete breakwater. This company assigned its contract to a firm known as Falconer and McDonald, Halifax. The deed of assignment was accepted by the Governor-in-Council on the 11th November, 1911, and the new contract was executed on the 19th December, 1911.

The proposed work is parallel to the northern side of the old breakwater in Liverpool bay, and is about a mile distant by wagon road from Brooklyn station on the Halifax and South Western Railway. The breakwater will consist of a shore approach

30 feet wide, extending out 170 feet, and a massed concrete structure for the outward part, 30 feet wide, said outward part being 480 feet in length. The approach will be formed by two parallel concrete retaining walls with vertical faces, filled between with hand-packed rubble. The filling will be covered with a load of concrete 2 feet thick deposited upon it, and bonded with the fresh concrete of the side wall. The top will be finished throughout on the seaward side to a height of 5 feet above H.W.O.S.T. From the end of the approach outward, the breakwater will be concrete deposited under water, and thickly studded with masses of stone. For about 130 feet, the mass of concrete will be founded on rock, from which the overlying material will be excavated. Beyond, to the outward end, the foundation will be enclosed with wooden sheet piling, and the concrete will be on the natural bottom thus enclosed. The top of the breakwater will be finished throughout 5 feet above H.W.O.S.T. as required for the approach. There will be nearly 30 feet of water at its outside end.

During the past fiscal year, estimates were granted in favour of the contractors, Messrs. Falconer and McDonald, to the extent of $43,796.21, from which a drawback of $4,778.04 was withheld. There is also a contract with the Canada Cement Company, Ltd., of Montreal, for the delivery of cement not to exceed 20,000 barrels. During the past fiscal year, the sum of $15,266.75 was granted on progress estimates sheet, with a drawback of $2,940.07 from the same. The total expenditure during the year being $59,062.96; and the drawbacks amounting in all to $7,718.11. Work was commenced on April 15, 1912, and continued until November 28. During that time, the breakwater for a distance of 390 feet from the shore outwards at its full width, namely, 30 feet, was completed. The excavation consisted of 1905 cubic yards common excavation and 10 cubic yards solid excavation. The other quantities in this work were as follows: In the approach, 720 cubic yards rubble, 796 cubic yards concrete; in the main structure, 6,007·9 cubic yards concrete. There were 7,920 barrels of cement received from the Canada Cement Company, from which 7,855 were used in the work, leaving a balance on hand of 65 barrels. The prosecution of the work was not hampered to any great extent by storms or bad weather. During the latter part of August, a form was damaged, and had to be rebuilt, which caused the delay of one week. The work was seriously retarded during the latter part of the fall by defective and worn-out machinery, but the contractors have been communicated with concerning this feature of the work.

The first 170 feet of the work is founded on a ledge of rock. From this point to the end of the work, the breakwater is built on the natural sea bottom, said bottom being enclosed with 12 by 12 inch sheet piling. In so far as the work has been constructed, satisfactory progress appears to have been made. This work will be resumed early in the spring of 1913.

### BRULÉ.

Brulé, Colchester county, is situated on Northumberland strait, about 20 miles in a straight line from the town of Pictou. It is an arm of Tatamagouche bay. The harbour is sheltered from the northeast by a long neck of land terminating in Cape John, on the northwest, and by Brulé point. Surrounding the harbour is a prosperous country well populated. The village of Brulé has a population of 500. The nearest railway station is Denmark on the Intercolonial Railway, distant two miles. The old wharf, constructed between 1884 to 1888, has a total length of 366 feet and a width of 24 feet with a height of 14 feet at the outer end.

During the year ending March 31, 1911, the sum of $1,948.85 was expended in extending the wharf. During the year 1911-12, the sum of $303.90 was expended in completing the close-piling of the new portion of the work.

During the fiscal year 1912-13, the sum of $2,000.44 was expended in taking down and rebuilding a portion of the old wharf. The piece so rebuilt is 160 feet long, 24

feet wide and has an average height of 10 feet. Work of construction begun June 3 and completed August 31, 1912.

BURKE'S HEAD.

Burke's Head, Victoria county, is on the northern side of the North bay of Ingonish, on the northeastern coast of the island of Cape Breton.

Plan and specification for the construction of a breakwater were prepared and forwarded to the department for approval, and on January 9, 1911, a contract was entered into with Messrs. Gerroir and Sweet in the sum of $35,490 for its construction.

The work of construction was commenced early in June, 1911, and good progress was made until the early part of October, when the weather became stormy and the work was delayed.

On October 1, the substructure of the work was all in place, excepting the 'L,' and was fully ballasted. The substructure of the 'L' was built afterwards and was ready to be placed, but during a terrific gale, it was driven ashore and partly wrecked.

The work was continued until November 20, when it was suspended for the winter and at that time the whole of the structure, excepting the 'L,' was completed.

Work thereon was resumed on May 1, and the work was finally completed and accepted on July 25, 1912.

The work consists of a cribwork structure 390 feet in length with a return or 'L' 120 feet in length, along the channel face, which is in 15 feet at low water; for a distance of 150 feet from the inner end it is 20 feet wide, for a further distance of 120 feet, 24 feet wide, and for the remaining distance, and for the 'L,' it is 30 feet wide on top. All the faces of the work are built of squared timber, laid open-faced, with ties of round timber, creosoted to half tide, solidly filled with ballast and the seaward face, outer end or channel face and outer end of 'L' are close sheathed between the fenders. A heavy quarried stone talus, sloping 3 to 1, has been laid along the seaward face of the work, and a road 300 feet long and 20 feet wide has been cut along the face of the bank, from the top of the bank to the inner end of the breakwater.

BURLINGTON.

Burlington, Hants county, with a population of 350, is a farming settlement, five miles north of the county town of Windsor, on the right bank of the mouth of the Kennetcook river.

In the year 1901-2, the department expended the sum of $3,499.99 in the construction of a wharf for general purposes. In the year 1902-3, the sum of $1,590.79 was expended in completing the road approach and in building a small freight shed on the wharf.

In the year 1911-12, the sum of $330.19 was expended in the purchase of planking, etc., for much needed repairs to the top of the wharf.

In the fiscal year 1912-13, the sum of $600 was expended in making repairs to the wharf. The repairs consisted of new planking, new floor-stringers, guard-rail and fenders. Work begun, May 1; completed July 11, 1912.

BURYING ISLAND (CANSO).

The harbour of Canso, Guysboro county, on the Atlantic coast near the eastern extremity of Nova Scotia proper, is formed by Piscatiqui, George and Grassy islands on the east, and by Durrell island and the mainland on the west; Cutler island and shoals between it and Durrell island protect it from the north, and Burying island and the bar between it and Lanigan point from the southeast.

The clay banks of Burying island had been gradually wasting away until only a small portion of it remained above high water. Its destruction would have transferred

it into a dangerous reef and left the harbour exposed to the swell from the Atlantic ocean. It became necessary, therefore, to protect the remains of the island by a breakwater. This work, begun in 1880 and finished in 1883, is 290 feet long and 21 feet wide, constructed of strongly framed cribwork, fully ballasted and covered with large stones with sloping spurs at the ends on the seaward side, 18 feet in length and 16 feet in width, originally covered with three-inch plank.

In 1900-1, the sum of $34.60 was expended in replacing part of the covering of the spur at the northern end of the breakwater.

During the year 1912-13, the sum of $50 was expended in renewing the covering of the spur, at the western end of the breakwater, with concrete. Work was commenced September 2 and completed September 5.

Total expenditure to March 31, 1913, $9,084.60.

### CAPE ROUGE.

Cape Rouge, Inverness county, is a small fishing station on the Gulf of St. Lawrence, about 8 miles to the northward of the entrance to Cheticamp harbour.

On August 30, 1911, a contract was entered into, in the sum of $15,884, for the construction of a breakwater to serve as a landing place and shelter for fishing boats. The work of construction was not commenced until May 13, 1912, and it was completed on January 17, 1913.

The work is 250 feet in length and 20 feet in width on top, with a 'T' head, 20 feet wide in line of work, and 105 feet long, and consists of continuous round timber cribwork with creosoted timber substructure, fully ballasted and close-sheathed on the outer faces.

The depth of water along the channel face of the 'T' head is 7½ feet at low water springs, which rise 4 feet.

### CARIBOU ISLAND.

Caribou island, Pictou county, is on the Northumberland strait, five miles to the westward of the entrance to Pictou harbour.

A causeway of brush and stone, 1,300 feet in length, between the western extremity of the island and the mainland, on flats dry at extreme low water, commenced in 1890-1, was, after the completion of the works undertaken in 1904-5, up to the level of about one foot above extreme high water, or seven feet above extreme low water, and had a talus of quarried stone on the seaward side, sloping one to one from high water.

The work was damaged and repaired from time to time between 1904-5 and 1908-9. At the beginning of the fiscal year 1909-10, it was in the following condition: The raising of the causeway and talus to a proposed height of three feet above extreme high water was nearly completed over a distance of 454 feet from the mainland; over a further distance of 576 feet, 454 to 1,030 feet from the mainland, it was raised to an average height of about 1½ feet above extreme high water, and the piles were driven in a proposed pile and brush work 555 feet in length, in bents 5 feet apart, centre to centre, with 3 piles in each bent, to protect the middle third of the causeway.

In 1909-10, the pile and brush work was completed, including the replacing of 99 piles broken during a severe storm in January, 1909.

In 1910-11, and in 1911-12, repairs were made.

During the year ended March 31, 1913, the sum of $1,400 was expended in repairing and strengthening the pile and brush protection work on the seaward side of the causeway, and in raising the causeway about 15 inches for a distance of 750 feet.

Work was in progress in May, June, July, August, September and October.

Total expenditure to March 31, 1913, $17,370.24.

CENTREVILLE.

Centreville is situated on Cape Sable island about two miles southwest of Northeast point, and is a calling place for a ferry service between Barrington Passage and Cape Sable island. It is the only wharf where supplies for a large number of people in that vicinity can be landed to advantage. This calling place serves not only the interests of the people in the immediate vicinity but of the Stony island section as well, so that in all the interests of about 800 people are affected. For a number of years, this ferry stopped at a private wharf known as McGray's wharf, which was in such a state that its renewal or rebuilding became absolutely necessary.

During the fiscal year 1911-12, the sum of $346.50 was expended for material for the work. During the past fiscal year, the sum of $2,325.95 was expended towards the construction of this work. It was commenced on August 21, 1912, and was closed down for the winter, and during the month ending March 31, 1913, work to the extent of $125 was performed. The proposed work was to be 299 feet in length, the first 118 feet consisting of a rock bank and the next 121 feet of cribwork and pile trestle bent, the outside 8 feet for its entire length to be cribwork, the other 12 feet to rest on pile trestle bents, separate 10 feet apart, measured from centre of pile heads. During the year, the rock bank was constructed, the 60-foot piece of cribwork was completed and 40 feet of the cribwork and pile trestle combined, leaving 81 feet yet to be constructed. The work is 24 feet wide on the rock bank and 20 feet wide for the rest. The height of the work at the outside end is 22 feet. Spring tides rise 9 feet; neap, 6 feet.

CHEGOGGIN.

Chegoggin, Yarmouth county, is a small fishing and farming village with a population of 200, situated on the Bay of Fundy coast six miles north of Yarmouth. The little bay, of the same name, is about a third of a mile deep north and south by about the same east and west, fully exposed to the southwest, but well sheltered from other quarters. It is dry at low tide, but at high water it has from 12 to 14 feet of water.

Over half a century ago, a breakwater was built by the inhabitants, but it was totally destroyed some twenty years ago, not a vestige of it being now visible.

In 1905-6, the inhabitants, with the aid of a grant of $45 from the municipality, built a small breakwater, 80 feet long, 12½ feet wide and from 6 to 11 feet high on the south side of the stream outlet. Since the above date, numerous expenditures were made by the department in repairs, renewals and extensions, of which a full account will be found in the departmental reports for 1905-6 and 1911-12.

In 1912-13, the sum of $984.05 was expended in building a small piece of cribwork as a breakwater on the north side of the stream. The work is 100 feet long, 11 feet wide and 6 to 8 feet high. The stream that issues alongside the breakwater was also deepened, by hand digging and horse scrapers, for a length of 300 feet, 15 feet wide and from 1 foot to 4 feet in depth.

CHESTER.

Chester, Lunenburg county, is a village of about 1,000, engaged in farming and general trade, situated at the head of Mahone bay, 45 miles southwest of Halifax. It is a favourite tourist resort in the summer and is a place of some importance owing to its fine situation and beautiful scenery.

In the year 1908-9, the department expended the sum of $113.80 in re-opening the channel through the isthmus joining the mainland and Peninsula point, which has filled in since it was last dug out in 1901. During the year 1911-12, the sum of $752.86 was expended in widening and deepening this channel.

During the year 1912-13, the sum of $2,300 was expended in taking down and rebuilding the western wall of the canal, a length of 110 feet, on an average height of 10 feet; in raising the road for a distance of 180 feet on the western and 110 feet on the eastern side from 3½ to 6 feet in height and 30 feet in width. A 35-foot span steel bridge was placed across the canal, and 800 yards of sand were removed.

The work was begun July 1 and completed October 23, 1913.

### CHETICAMP.

Cheticamp, also called Eastern harbour, Inverness county, is on the west coast of Cape Breton island, 18 miles north of Margaree. It is a secure harbour, being sheltered from the west and south by Cheticamp island and a connecting beach. The entrance is from the north through a dredged channel.

A wharf built on the eastern side of the harbour in 1890, consisted of an approach 125 feet in length, and 30 feet in width over a distance of 60 feet from its outer end, with side walls and centre filling of stone, and an extension 80 feet in length in two blocks; a central block 20 by 20 feet, and an outer block or head 25 feet in width and 60 feet in length along the channel face, with opening of 17 feet 6 inches.

During the years 1898 to 1900, the wharf was reconstructed and extended by the addition of a creosoted pile head, 70 feet in length and from 33 to 37 feet in width.

During the fiscal year ended March 31, 1912, the sum of $1,103.23 was expended in the renewal of fender-piles, waling, braces, and chocks, in the pile head; and the cribwork, where it had settled, was raised, and where required, new covering was placed.

During 1912-13, the sum of $199.35 was expended in completing the renewal of the covering of the wharf, commenced during 1911-12.

### CHETICAMP HARBOUR.

The object to be obtained is the improvement of the channel from the entrance into the harbour, by deepening it to 16 feet at low water in a width of 100 feet, so as to enable a larger class of vessels and steamers to call at all times of tide, principally for the exportation of gypsum.

The work of dredging was commenced during 1909-10, and during that year about one-half of the width of proposed channel, and over its whole length of 2,400 feet, was dredged to the required depth, and the balance of the width, to an average depth of about 10 feet at low water.

On August 6, 1912, a contract was entered into with Vivian T. Bertram of Toronto, for the completion of the work. The work under contract involved the removal of 22,800 cubic yards, scow measure, of sand, at the rate of 37½ cents per cubic yard, making a total cost of $8,550.

Dredging operations were commenced by the dredge *Etang*, and plant, on August 7, 1912, and continued until October 9, when the amount contracted for was removed, but owing to some filling in of dredged cuts by shifting sand, the channel was not fully completed.

### CHURCH POINT.

Church Point, Digby county, is situated on the south-east side of St. Mary's bay, Bay of Fundy, 9 miles southwest of Weymouth. It has a population of some 200 or 300 engaged in fishing and farming. The works here, which consist of a wharf, a retaining wall, and a breakwater, all of native timber cribwork, were built between 1855 and 1865 at the joint expense of the inhabitants and the provincial Government. Since 1875, the department has made numerous expenditures in repairs, renewals and

extensions, of which a full account will be found in the departmental reports for 1910-11 and 1911-12.

In 1912-13, the sum of $369.34 was expended in renewing the sluice gates at the foot of the tidal pond, which are used for clearing away the gravel from the berth for vessels alongside the wharf, and in the placing of seven new mooring posts along the face of the wharf.

### COFFINS ISLAND.

*Dredging.*

Coffins island is situated in Queens county. It is an island about two and a half miles long, varying in width from one-quarter to three-quarters of a mile, situated on the eastern side of Liverpool bay. The cove, where the proposed dredging is located, is at the extreme northern end of the island. It has no regular population, but is a fishing station, and from 100 to 125 fishermen utilize it during the lobster and cod season.

The shipping is in the nature of large shipping boats from two to five tons burden, two small steamers, about 60 feet in length over all, and an 80-ton schooner which, twice a year, lands coal for the light on the southern end of this island. Most of these boats employ gasoline engine as auxiliary power. There are about eighty of these boats.

Before dredging could be performed, of which there was 13,645 cubic yards, place measurement, it was found necessary to remove rocks from the entrance of the harbour. During the last fiscal year, $579.75 was expended thereon. Work was commenced on the 10th of April and ceased on the 15th. The number of tons raised was 135, which made the cost per ton $4.30. The steamer *Coast Guard* was authorized to proceed and perform fifteen days' work in making a bed and further clearing out the entrance to this harbour. Spring tides rise 7 feet; neap, 4½ feet.

### COTTAGE COVE.

Cottage Cove, Annapolis county, is a very slight indentation in the coast line of the south side of the Bay of Fundy, about two miles west of Port George. The population of the place comprises about 100, engaged in fishing and farming.

To afford some slight protection to the fishing boats, the department, in 1911-12, expended the sum of $959.33 in the construction of a small breakwater. The work is 70 feet long, 20 feet wide and from 5 to 11 feet high.

In 1912-13, the sum of $1,200.07 was expended in completing the breakwater, 70 feet long, built last year, and in building an extension, 60 feet long, 25 feet wide and from 14 to 18 feet high. Owing to the lateness of the season at which the work was begun, and frequent and severe storms, the work was not completed, and an appropriation next year will be necessary.

### COW BAY (PORT MORIEN).

Cow Bay (Port Morien), Cape Breton county (South), is on the east coast of Cape Breton island, about eighteen miles to the eastward of the entrance to Sydney harbour.

A breakwater, built by the owners of the Gowrie coal mine on the north side of the bay, came under charge of the department in 1873. It originally extended 1,374 feet, to 17 feet at low water, or 23 feet at high water, and was about 44 feet in width. The area of the basin enclosed between it and the shipping pier of the Gowrie mines, now the property of the Dominion Coal Company, was 17 acres, 10 acres of which had a depth of from 9 to 17 feet at low water.

The breakwater was seriously damaged during the great gale of August 24, 1873. Extensive repairs and improvements were made nearly every year up to 1895, when it

consisted of 220 feet of old work protected on the seaward side by a beach of shingles and boulders, 361 feet of old work 44 feet in width, with a new inner face work and a 'break' on the seaward side built over the remains of the old work, and 793 feet of inner work with counterforts and connecting outer face works. The inner and outer face works were from 30 to 20 feet apart; they were connected by tie walls and the spaces were filled with earth and stone ballast.

In 1895-6, 260 feet of breakwater (1,121 from the shore end outward) was carried away down to from 2 to 6½ feet below low water; the outer face works from 1,121 feet from the shore end inward were badly damaged, and ballast was washed over the works and deposited in the dock along the inner face from 581 feet to 1,121 feet from the shore end.

Large expenditures were made every year from 1896-7 up to 1908-9 in repairing and strengthening the breakwater from 1,121 feet from the shore end inward. The outer works were reconstructed and strengthened by filling the face-chambers with concrete and by close-piling; the stringers and covering of the inner work from 581 feet to 1,114 feet from the shore end were renewed, and a portion of the inner face-work, 350 feet in length (187 feet to 537 feet from the shore end), was widened and reconstructed. The placing of large concrete blocks against the seaward face of the breakwater was undertaken in 1906-7 and continued in 1907-8, 1908-9 and 1909-10.

During the fiscal year 1910-11, $12,748.50 was expended in extensive repairs.

During 1911-12, the sum of $1,977.84 was expended in procuring 500 barrels of cement, the full amount required to complete the necessary repairs, and in placing large concrete blocks on the seaward face of the breakwater.

The amount voted for 1912-13, viz., $3,000, was expended by day labour in the construction and placing of the balance of concrete blocks required for the protection of the seaward face of the breakwater.

### CREIGNISH.

Creignish, Inverness county, is a farming and fishing district on St. George's bay. Its southern extremity is three miles from the Strait of Canso. Connection is made with Port Hood, the shire town of the county, to the north, and Port Hawkesbury, and with the Intercolonial railway to the south, by railway of the Inverness Railway and Coal Company.

During the year 1910-11, the sum of $1,135.62 was expended in procuring nearly all the materials required for the construction of a landing wharf, 220 feet long and 20 feet wide, consisting of native round timber cribwork, laid open-faced, fully ballasted and fendered and close-sheathed on the seaward face and outer end and extending to 6 feet at low water springs, which rise 4 feet.

During the year 1912-13, the sum of $2,499.67 was expended in procuring the balance of the materials required for, and in the construction and completion by day labour, of the wharf, for which most of the materials were procured during 1910-11, and in completing the road from the wharf to the public road.

### CRIBBIN'S POINT.

Cribbin's Point, Antigonish county, is on the west side of St. George's bay, eight miles to the southward of Cape George and five miles to the northward of the entrance to Antigonish harbour.

The wharf, including a block at the outer end, 48 by 20 feet in line of work, built in 1901-2, is 320 feet in length and has an approach partly in embankment, with stone retaining wall, and partly in clay cutting, 195 feet in length. It is 20 feet in width for a distance of 120 feet from the inner end, 30 feet in width for a further distance of 180 feet or to the original outer end, and 48 feet in width over the outer 20 feet.

Depth at outer end of wharf at L.W.S., 11 feet.

Spring tides rise 4 feet.

Repairs were made in 1910-11 and 1911-12.

In 1912-13, the sum of $999.45 was expended in repairs to the wharf and approach, including renewing the covering over 70 feet at the inner end, replacing about 70 feet of sheathing on the seaward side near the outer end, placing about 25 cubic yards of ballast in the outer block, in slight repairs to the approach and in procuring ballast for use in 1913-14.

Works was in progress July 15 to 26, October 5 to 31, November 10 to 23 and March 8 to 31.

Total expenditure to March 31, 1913, $32,725.07.

### CROFT'S COVE.

Croft's Cove, Lunenburg county, is situated near Crescent beach, Petite Rivière. During the fiscal year 1910-11, the sum of $891.53 was expended in the construction of a boat landing to accommodate a number of people living on La Have islands and others visiting Crescent beach, a popular summer resort.

During the year 1911-12, the sum of $206.73 was expended in the purchase of timber required for repairing the damage caused by ice during the winter months.

During the fiscal year 1912-13, the sum of $1,001.50 was expended in the construction of a cribwork block on the outer end of the wharf, 31 feet long, 17 feet wide and 12 feet in depth, also a cribwork support near the shore end, 11 feet long, 5 feet wide and 12 feet deep. In addition to this, 24 bearing piles and 18 fender piles were driven, and the stone work was repaired.

Work was begun August 8; completed, September 27, 1912.

### D'ESCOUSSE.

D'Escousse, Richmond county, is a thickly settled district on the northeastern coast of Madame island, and on the southern side of the eastern entrance into Lennox passage, a strait separating Madame island from Cape Breton island, and connecting St. Peter's bay with the Strait of Canso.

The harbour is formed by outlying islands and connecting beaches, and is about one-third of a mile in length and one-fifth of a mile in width, with a depth of from 18 to 21 feet at low water springs, which rise 6 feet, but its entrance, which is from the eastward through a narrow and crooked channel, is obstructed by a bar of sand and clay, with only 10 feet at low water over it.

On July 17, 1912, a contract was entered into with Mr. Vivian T. Bartram, of Toronto, for straightening and deepening, to 14 feet at low water, the channel across the bar at the entrance, involving the removal of 27,000 cubic yards, scow measure, of mud, clay and gravel, at the rate of 26½ cents per cubic yard.

The dredge *Etang,* and plant, commenced operations on October 24, 1912, and continued until November 23 following, when the work was suspended for the season. Up to that date, two cuts about 25 feet in width and about 600 feet in length were dredged to the required depth, and 8,925½ cubic yards of material were removed, which, at 26½ cents per yard, amounted to $2,365.26.

### DELAP COVE.

Delap cove, Annapolis county, is situated on the south shore of the Bay of Fundy, twelve miles to the eastward of Digby Gut. The breakwater is constructed on the eastern side of the mouth of the small tidal pond, which affords safe shelter for fishing boats, and is a convenient place for keeping schooners and other small craft

during the winter. It affords a good landing place for coasting vessels, and good shelter from easterly storms. The shore on the opposite side of the stream protects the breakwater, and the pond, from westerly storms.

Spring tides rise about 28 feet.

The breakwater, which is now 185 feet long, 28 feet wide, and from 12 to 21 feet high, was built by the department in 1878-9. Since its construction, it has had frequent repairs and renewals, of which full particulars are given in the departmental reports for 1909-10 and 1911-12.

In 1912-13, the sum of $1,299.67 was expended in completing the piece of cribwork on the north side of the tidal pond and on the south side of the main breakwater, 76 feet long, 15 feet wide and 9 feet high, also in completing a small landing wharf on the west side of the creek, 42 feet long, 30 feet wide and 14 feet high, both of which pieces of work were begun last season.

### DEVIL ISLAND.

Devil island, Halifax county, is a small low island about 2,000 feet in length by 1,000 wide, with its highest point about 15 feet above H.W.O.S.T., situated about eight miles to the southeast of the city of Halifax, and one-third of a mile from the mainland of Hartland point, to which it is connected by a reef, covered with 3 feet of sand, and having 3 feet of water over it at low tide. The island is permanently inhabited by about 100 people, wholly dependent upon fishing for their livelihood.

In 1892, a breakwater, 300 feet in length, 15 feet in width, with an 'L' at the outer end, 30 feet in length, at which there is a depth of water of 5 feet at L.W.O.S.T., was constructed at a cost of $1,941.18. In the next eleven years, various small amounts were expended in making repairs to the work. In 1904-5, the sum of $499.48 was expended in building a small breakwater on the northern end of the island to prevent the sea from washing around and disturbing boats lying at or near the old breakwater, on the west side. The work measures 155 feet in length, 15 feet in width, and from 4 to 8 feet in height, substantially built of round-log cribwork, and filled with stone ballast.

On June 19, 1905, a contract was entered into with Messrs. Reid and Archibald to construct a new breakwater immediately to the west of the old work, which was so far eaten, by both the *teredo* and the *limnoria*, as to be of little further service. The amount of the contract was $5,980. The work to the level of high tide is of creosoted timber.

In the fiscal year 1912-13, the sum of $13,270.50 was expended in beginning the construction of a concrete and stone breakwater under contract with Obed A. Ham. The amount of the contract is $26,984. The work, when completed, will measure as follows: Stem, 90 feet long, 16 feet wide; 'L,' 150 feet long, 16 feet wide; width, 16 feet at bottom; height, 17 to 22 feet.

Work begun in May; suspended October 31, 1912.

### DIGBY.

Digby, Digby county, is the shire town of the county, with a population of about 1,600 people, situated on the southwestern end of Annapolis basin. It is an important station on the D. A. Ry., 67 miles north of Yarmouth, 150 from Halifax and 20 from Annapolis. It is the port of call for the daily steamer of the D. A. Ry. plying between Digby and St. John.

The pier, nearly 900 feet long, was originally built by the provincial Government some years before Confederation; full particulars of the work will be found in the departmental reports for 1906-7, 1909-10 and 1911-12.

In 1912-13, the sum of $5,641.03 was expended in extensive, general and miscellaneous repairs, renewals and improvements to the pier, including an extension to the freight shed, 60 feet long, the renewal of a considerable area of covering, worn in by the traffic, and the replacing of a number of fender piles, guard timbers, etc.

The wharfage collections at this pier now exceed $4,000. There is consequently great wear and tear and frequent need for repairs and renewals.

*Dredging.*

On 18th of September, 1912, a contract was signed by the Dominion Dredging Company to remove 60,000 cubic yards, class 'B,' at 27½ cents per yard, in the channel approach to the pier, and 34,000 yards, class 'B,' at the same price, from the cove or bay known as the Racquet, immediately to the north of the town. Work was begun on 15th of June, and suspended for the season on the 12th of July, 1912, the quantities removed being 60,350 cubic yards of sand, gravel and mud, from the channel approach to the pier, and 1,260 yards of sand and gravel from the Racquet, both pieces of dredging being scow measurement.

The Dominion Dredging Company have made no apparent effort since the 12th of July, 1912, to complete their contract in the Racquet, and as the time of completion for their whole contract was fixed by the contract for the 15th of December, 1912, they have defaulted.

The object of the dredging in the channel approach to the pier was the deepening and widening of the channel, so as to permit the daily steamer to approach the pier more easily. The dredging done here was comprised within the length of 2,000 feet, and a width of 400 feet. The maximum cut was about 9 feet, and the average between 2 and 3 feet. The dredging was carried to 18 feet below L.W.O.S.T.

The object of the dredging in the Racquet was the deepening and widening of the approach to several wharfs which are used by a very considerable fishing industry.

Spring tides rise 27 feet; neaps, about 22 feet.

DILIGENT RIVER.

Diligent River is a scattering settlement having a population of about 300 people. It is situated about seven miles west-southwest of the town of Parrsboro. During the past fiscal year, a wharf was constructed. Work was commenced June 26, and completed on October 31, 1912, the total expenditure being $2,491.71.

The wharf is 50 feet long, 70 feet wide, the first 30 feet resting on pile trestle bents, the outside 20 feet being constructed of round-log cribwork, thoroughly fastened and ballasted. Its height at the outside end is 22 feet. The material and workmanship have been of the very best quality, and an extremely satisfactory work has been constructed. Spring tides rise here 39 feet; neap, 33 feet.

DRUM HEAD.

Drum Head, Guysboro county, is on the south or Atlantic coast of Nova Scotia, about two miles to the eastward of the entrance to Isaac's harbour.

A breakwater, commenced in 1902-3 and completed in 1903-4, extended 330 feet, in from 1½ to 2 feet at extreme low water. It is of cribwork fully ballasted and protected on the seaward side by close-fendering and by a stone talus sloping 3 to 1 from high water.

A contract was entered into in April, 1906, for the construction of an extension, 149 feet in length and varying in width from 16 feet at the inner end to 20 feet at the outer end, with an 'L' at the outer end, 30 by 20 feet, forming a 'head' 50 feet in length, of cribwork fully ballasted, close-fendered on the seaward side and at the outer end, and protected on the seaward side to within 60 feet of the outer end.

In 1906-7 the work under contract was completed and the sum of $316.60 was expended in constructing a small warehouse at the inner end of the breakwater.

During the fiscal year ended March 31, 1913, the sum of $192.94 was expended in removing the warehouse from the inner end of the breakwater and placing it on a cribwork block, 30 by 12 feet in width, constructed inside the 'L' at the outer end of the breakwater. Work was in progress November 1 to 29 and December 2 to 19, 1912.

Total expenditure to March 31, 1913, $6,389.54.

### DUNCAN'S COVE.

Duncan's Cove, Halifax county, is a fishing settlement situated on the Atlantic coast, about one mile west of the entrance to Halifax harbour. It has a population of about 50 people engaged almost exclusively in fishing.

During the year 1912-13, the sum of $6,960 was expended in the construction of a breakwater, under contract with A. W. Gerroir and Kinsman Sweet.

The completed work is 110 feet long, 30 feet wide and 25 high at the outer end, and has a 4-foot break on the seaward side.

Work was begun in August and completed in October, 1912.

### EASTERN PASSAGE.

Eastern Passage, Halifax county, is an important fishing village of some 300 or 400, situated on the eastern side of Halifax harbour, five miles below the city. A small brook which empties into a cove used to keep the channel open for boats, but of late years, the beach which protected the cove has been gradually moving shoreward, until protection works became indispensable.

In 1908-9, the sum of $4,979.61 was expended in constructing a breakwater for the further protection of the harbour. The work is 350 feet long, of which 200 feet is 10 feet wide and 150 feet is 15 feet wide. The work is from 10 to 15 feet high, substantially built of round-log cribwork. Some 10,000 feet in length of brush fence was also constructed to check the driving of the sand.

During the fiscal year 1910-11, the sum of $584 was expended in completing the outer end of the breakwater which was left in an unfinished condition in the year 1908-9.

During the fiscal year 1910-11, the sum of $3,345.84 was also expended in removing 9,961 cubic feet of sand to form a channel for the fishing boats entering and leaving the harbour. Work was done under contract with Messrs. Beazley Bros., of Halifax.

During the fiscal year 1912-13, the sum of $193.45 was expended in making repairs to the breakwater. The work done consisted in the placing of sixty fenders, and making repairs to planking and ballasting.

Work was begun June 28 and completed July 24, 1912.

### EASTERN POINTS.

Eastern Points is a fishing settlement about two miles east of Blue Rocks and about six miles east of the town of Lunenburg, and is used by the fishermen of the locality. It has a population of about 100 and the boneless fish industry now in operation has an output valued at about $4,000.

Work performed, this year, consists of dredging a channel from the main channel to the wharfs, about 150 by 30, averaging a depth of 4 feet, thence along the wharfs for 178 by 30 feet and an average depth of 5 feet, so as to provide a safe waterway to the wharfs and safe anchorage.

In November 1,500 yards of mud were removed by hand.

EAST CHEZZETCOOK.

East Chezzetcook, Halifax county, is a deep inlet on the Atlantic coast, about twenty miles to the east of Halifax harbour. The inlet is surrounded by a population of some 300 or 400, engaged in fishing and farming. In 1904-5, the sum of $3,993.26 was expended in the construction of a detached breakwater for the purpose of creating a scour in order to deepen the channel over the bar at the mouth of the harbour. During the year 1906-7, a further sum of $4,000 was expended in extending and completing the work. The completed work is 846 feet long, 16 feet wide and from 8 to 16 feet high. During the fiscal year 1910-11, the sum of $1,128.33 was expended in the purchase of timber for the construction of an additional detached breakwater, to be completed under the 1911-12 appropriation.

During the year 1911-12, the sum of $468.50 was expended in the purchase of additional material for this purpose. During the year, it was decided to change the location of the breakwater to a point known as 'The Greves' beach.

In the fiscal year 1912-13, the sum of $7,260 was expended, under contract with A. W. Gerroir and Kinsman Sweet, in the construction of a breakwater. Of this amount, $100 was held back by the department to ensure the placing of 1,700 B.M. of planking which the work lacked at the close of the season. The breakwater is 300 feet in total length, 20 feet in width, and has a height of 4 feet above H.W.O.S.T. On the eastern side of the work for its whole length is a break 3 to 6 inches in height.

Work completed December, 1912.

EAST JEDDORE.

East Jeddore, Halifax county, is a settlement of about 600, scattered along the shore of Jeddore harbour, about thirty miles east of Halifax and ten miles west of Ship Harbour. The inhabitants are chiefly engaged in fishing, the fleet comprising 10 schooners and a number of small boats. The harbour is an excellent one, with good shelter and easy approach, the channel being from 20 to 40 feet deep and from 800 to 1,000 wide.

In the fiscal year ending June 30, 1904, the department expended the sum of $1,403.38 in constructing a pile wharf 100 feet long, 25 feet wide with an 'L' on the outer end, giving a face length of 40 feet. The height of the work along the outer face is 20 feet, giving a depth of water at L.W.O.S.T. of about 10 feet. In the year 1904-5, the sum of $928.07 was expended in repairs to the work which had been seriously damaged by exceptionally heavy ice. In the year 1907-8, the sum of $827.70 was expended in constructing a substantial block of cribwork 40 feet long, 20 feet wide and from 13 to 19 feet high, under the north corner of the wharf to prevent further damage by ice. In 1908-9, a second block of cribwork was built, for the protection of the wharf, 22 feet long, 20 feet wide and 12 to 15 feet high. A small freight shed 22 by 15 feet was also constructed for the convenience of shippers. During the fiscal year 1910-11, the sum of $52.95 was expended in making repairs to the fenders, piling and guard-timbers of the wharf.

In the fiscal year 1912-13, the sum of $317.92 was expended in miscellaneous repairs to the wharf, including the placing of three new mooring posts and new planking.

Work was begun November 6 and completed November 19, 1912.

EAST RIVER.

East river, Pictou county, is the most easterly of three branches of Pictou harbour. It is navigable for small vessels from opposite Pictou town to New Glasgow, seven miles inland. Improvements were undertaken to accommodate large steamers.

Dredging to 21 feet at L.W.S. in a channel 150 feet in width at bottom, undertaken by the hydraulic dredge *Northumberland* late in the season of 1908, was continued in 1909-10, 1910-11, 1911-12 and 1912-13.

During the season of 1912-13, the dredge *Northumberland* worked: From station 19600 to 24000 cleaning up work gone over in the previous year; from station 26500 to 27900 + 25, dredged to about 12 feet at L.W.S., width of 150 feet; from station 28,600 to 27,900 + 80, dredged to from 11 to 12 feet below L.W.S., average width of cut about 100 feet. Work was in progress June 1 to November 18, and removed 393,755 cubic yards.

### EAST SHIP HARBOUR.

East Ship Harbour is a fishing district situated on the Atlantic coast about fifty miles from Halifax. For the accommodation of the inhabitants, the department, in the year 1912-13, began the construction of a wharf. The sum of $1,000 was expended in the construction of a stone approach to the wharf and one block of cribwork, measuring 20 feet by 20 feet. The work will be continued under the 1913-14 appropriation. Work begun September; suspended December, 1913.

### ECUM SECUM.

Ecum Secum inlet, Guysboro county is on the southern or Atlantic coast of Nova Scotia, nine miles to the westward of Liscomb harbour and near the boundary line between the counties of Guysboro and Halifax.

The wharf, constructed in 1901-2, is 160 feet in length and 22 feet in width on top, with an 'L' at the outer end, 22 by 22 feet.

It is a continuous structure of round timber laid open-faced, fully ballasted, and close-sheathed on the outer end and on the seaward side for a distance of 60 feet from the outer end, and on the eastern face of the 'L.' The depth of water at the outer end at L.W.S. is 10½ feet. Spring tides rise 6 feet.

In 1911-12, repairs were made.

In 1912-13, the sum of $599.89 was expended in repairing and strengthening the wharf, including procuring and placing 6,500 feet b.m. of covering, in placing sheathing and in saving and replacing some sheathing that had been carried away in February.

Work was in progress September 5 to 28, October 1 to 14 and March 1 to 8.

Total expenditure to March 31, 1913, $6,182.36.

### EEL BROOK.

Eel Brook, Yarmouth county, is a thrifty fishing and farming settlement of about 600 people, situated on the east side of the many islanded bay, forming the mouth or estuary of the Tusket river, twelve miles east of Yarmouth.

In 1910-11, the channel of the brook, issuing from Eel lake, was deepened and its sides protected by cribwork for a length of 54 feet, 7 feet wide, and from 3 to 5 feet high.

In 1911-12, the sum of $1,334.22 was expended in beginning the construction of a public wharf.

In 1912-13, the sum of $986.39 was expended in completing the wharf, which consists of a stone and gravel shoreward end, 150 feet long, 30 feet wide and from 3 to 12 feet high, followed by a block and span structure 92 feet long, 30 feet wide and from 12 to 15 feet high, comprising four blocks 10 by 30 feet and four spans at 13 feet each. The blocks are of stone, up to about 5 feet below high water, or 8 feet above low water, on account of the prevalence of a small and extraordinarily voracious *teredo*. The upper 6 feet of each block is of cribwork.

FALLS POINT, WOODS HARBOUR.

Falls point is situated at Woods harbour about one mile above the railway station, which is at the lower end of the settlement. In former years, ice forming in the harbour and moving out in time of storms would very often carry with it several of the boats belonging to fishermen. In order to provide shelter, a breakwater was begun during the fiscal year 1910-11, and upon it the sum of $3,882.04 was expended. An additional $3,000 was granted during the fiscal year 1911-12 for completion of the same. Of this amount, the sum of $1,255.04 was expended in procuring the material, but the extension was not completed. During the past fiscal year, the sum of $1,800 was expended in completing this breakwater. It was commenced on August 13, and completed on November 20, 1912.

In 1910-11, there was constructed here a rock bank approach 112 feet in length, 24 feet wide on top and 10 feet high at its outer end, also 210 feet in length of continuous cribwork, 20 feet wide on top, with a height of 22 feet at the outer end. During the last fiscal year, this was extended a farther length of 120 feet, with a height of 19 feet at the outer end, a portion of a sunken reef being used as a foundation for the outer portion of the cribwork, thus accounting for lesser height than that of the middle of the work. The whole structure has been constructed of continuous cribwork, ballasted to the inside of the floor stringers, and the work was performed in a most workmanlike and satisfactory manner. It is covered with 3-inch plank, and is equipped with guard-rails and exterior stringers, well fendered, and is a neat, workmanlike job. Spring tides rise 11 feet; neap, 8 feet.

FINLAY POINT.

Finlay point, Inverness county, is on the western coast of Cape Breton island, about three miles north of the entrance to Mabou harbour.

During 1903-4-5, a wharf, 15 feet wide and extending to 14 feet at low water, was constructed by the department to serve as a landing place and a shelter for boats, and during 1907-8, a cribwork block, 25 feet by 18 feet, was built adjoining the inner face at the outer end of the cribwork.

During 1912-13, the sum of $1,000 was expended by day labour in the construction of a work for the protection of the beach at inner end of wharf, 200 feet in length and 5 feet in width, and consisting of pilework filled in with brush and stone.

FIVE ISLANDS.

Five Islands, Colchester county, is situated on the north shore of the Basin of Minas at the extreme western end of Colchester county, fifteen miles east of Parrsboro. The total population is from 300 to 400, and the exports consist chiefly of lumber, deals, cordwood, potatoes and fish. From 20 to 30 coasting schooners load here annually.

In the year 1884, the department built a public wharf, at a cost of $2,500, at the upper or east end of the settlement, in the mouth of the east river. It is 75 feet long, 40 feet wide, and 28 feet high at the outer end, where, at H.W.O.S.T., there is 25 feet of water. The work is of the ordinary type of round-log, stone-filled cribwork. The sides batter 1 in 12 and are double fendered. From 1893 to 1904, various repairs were made to this work and an inclined ramp, for the purpose of loading deals on the decks of schooners lying dry at low water, was constructed.

In the year 1911-12, the sum of $249.33 was expended in the purchase of timber in readiness for the work to be done under the 1912-13 appropriation.

In the year 1912-13, the sum of $701.57 was expended in the removal of mud in order to afford berthing facilities for an additional vessel at this wharf.

Work was begun April 1; completed May 10, 1912.

FOX ISLAND.

Fox island, Halifax county, is situated on the Atlantic coast thirteen miles east of the city of Halifax and is about 900 feet from the mainland. It is only some three or four acres in extent and no point on it is more than 6 feet above H.W.O.S.T. It has no permanent inhabitants, but during the summer season it is used by the fishermen as a fishing station.

In the year 1886-87, the department built a cribwork protection extending over the whole length of the beach between the island and the mainland, a distance of 933 feet, and in 1892, an extension of 252 feet in length was built to protect the main part of the island. Numerous expenditures have been made for repairs since that date. In the year 1910-11, the sum of $1,408.81 was expended in the construction of a small breakwater, 100 feet in length, for the protection of the boat landing on the western side of the island. In the year 1911-12, the sum of $1,129.53 was expended in the purchase of material for the construction of an addition to the breakwater, to be completed under the 1912-13 appropriation.

In the year 1912-13, the sum of $1,895.89 was expended in the extension of the breakwater. This addition has a length of 100 feet, is 25 feet wide and has a height of from 15 to 20 feet. It is built of cribwork and has a break, on the seaward side, four feet in height.

Work was begun May 28 and completed November 20, 1912.

FRENCH RIVER.

French River, Victoria county, is a small settlement on that part of Cape Breton island commonly known as the North Shore, and is situated about midway between the harbours of St. Ann's and South Ingonish, and distant about fifteen miles from each.

On March 18, 1911, plan and specification for a small breakwater to form a boat harbour, and estimated to cost $4,100, were submitted to the department. Tenders for its construction were called, and on September 27, 1911, an Order in Council was passed authorizing the acceptance of the tender submitted by Messrs. Robert and Bart Musgrave, of North Sydney, in the sum of $4,600.

The work under contract is 200 feet in length and 16 feet in width on top, with faces battering 1 in 8, and is to be built of round timber, with creosoted timber substructure, fully ballasted and protected by fenders all around and by close-sheathing on the exposed faces.

It was expected that the work under contract would be completed during 1912-13, but owing to the late delivery of the materials required for its construction, and the exposed position of the site, the contractors asked that the date of completion be extended to September 1, 1913, which was granted, and the work of construction will not be commenced during the present year.

FRUID'S POINT.

*Dredging.*

Fruid's Point is situated at the head of Ragged Island bay, about three miles northeast of Lockeport. It is really the terminus of the Halifax and South Western railway, and about 3,000 in that vicinity are served by steam ferry communication with the public wharf, where connection is made with the said railway.

The nature of the shipping at this place is very small, it being chiefly for ferriage purposes that the wharf is used, although within one hundred yards of the wharf there is situated a ship building plant where, during the past three years, there have been some fifteen vessels, from 50 to 160 tons burden, built and launched. Important

development to the fishing industry at Lockeport has occurred, and as this is one of the connecting links for the proper transportation of fish to the different markets on this continent, it was necessary to have proper improvement to the approaches to this wharf. In order to do this, it was estimated that about 550 tons of stone should be removed from the channel to the wharf, so that it should be widened to 200 feet and sufficient depth of water for navigation purposes be available. The nature of the material was gray whin, granite and a few heavy sandstones. It consists mostly of large boulders, and was spread over a considerable area. Work was commenced on April 16 and completed on May 27, 33½ actual working days being employed. During that time, 570 tons, at an expense of $3,327.25, were removed. The cost per ton was $5.65. Spring tides rise 7 feet; neap, 4½ feet.

GILLIS POINT.

Gillis Point (East), Victoria county, is a small settlement on the western shore of the Little Bras d'Or lake, about six miles to the northward of Iona, a station on the Intercolonial railway.

During 1910-11, the sum of $2,265.31 was expended in procuring most of the materials required for the construction of a public wharf, and during 1911-12, a further sum of $912.41 was expended in procuring the balance of the materials required for the completion of the wharf and in the construction of a portion of its inner end.

During the year ended March 31, 1913, the sum of $2,091.49 was expended in the completion of the wharf for which the materials were obtained during 1910-11-12, and in the improvement of the road leading to the wharf.

The wharf is 142 feet in length and extends to 13 feet at low lake level. It is a block and span structure, 16 feet wide for a distance of 118 feet, and 24 feet wide for the remaining distance of 24 feet; the blocks being constructed of round timber, creosoted to high lake level, fully ballasted and fendered, and the faces of the two outer blocks were close-sheathed.

GLACE BAY BEACH.

Glace Bay Beach, Cape Breton county, is situated on the northern coast of Cape Breton island, between the towns of Glace Bay and Port Morien.

During the year 1908-9, the department constructed, under contract, a work to protect the public road crossing the beach at the head of Big Glace bay, and separating the bay from the Big Glace Bay lake. The work is 4,000 feet in length and consists of pile-work filled in with brush as follows: Piles were driven 4 feet apart, centre to centre transversely, and 5 feet apart, centre to centre longitudinally, in a trench excavated to 2 feet below the level of high water. The space, longitudinally, between the piles, was filled in to a height of 6½ feet above the level of high water, with small spruce trees, trimmed and closely packed, after which the tops of the piles in each bent were connected with ¾-inch tie rods. The total cost of this work was $9,415.72.

The brush filling, for a distance of about 700 feet, in the centre and most exposed part of the work, was washed out by the sea during 1911-12, leaving the piles standing, and during 1912-13, the sum of $647.16 was expended by day labour in reconstructing the washed-out portion of the protection work.

GRAND ETANG.

Grand Etang, Inverness county, is on the Gulf of St. Lawrence, about midway between the harbours of Margaree and Cheticamp on the western shore of the island of Cape Breton.

Works designed to improve the entrance to a large pond, thus making it available for the use and shelter of fishing boats and small vessels, were completed in

1894-5, and a bridge across the pond, about 500 feet within the entrance, was constructed during 1895-6, and reconstructed during 1902-3.

The works include a dredged channel between two piers placed 87 feet apart, except at the entrance where the distance between them is 44 feet. Each pier consists of brush and stone work, 135 feet in length; brush and stone embankment, with talus and covering of stone, 130 feet in length; open-faced cribwork, 100 feet in length, and cribwork head, 30 feet in line of work by 48 feet, with creosoted substructure, reconstructed in 1908-9. The brush and stone work, and about 85 feet of brush and stone embankment on each side, are founded on a bottom excavated to one foot above extreme low water, and the remainder of each pier on the natural bottom, the depth at its outer end at extreme low water being 4 feet 6 inches.

The 'bridge,' as reconstructed in 1902-3, is 563 feet in length, including the east and west approaches of brush and stone with cribwork abutments, respectively 94 and 51 feet in length, and 438 feet of creosoted pile-work. It is provided with a handrail on each side, an opening for boats and a draw. The depth at extreme low water, over the central 200 feet, is about 6 feet, and to firm bottom, through soft mud or silt, from 21 to 24 feet.

During the year 1910-11, the bridge was repaired and 50 feet of the cribwork on each side of the channel were reconstructed.

During 1898-9, dredging between the piers to 6 feet at extreme low water was performed, and during 1910-11-12 the channel, the pond inside up to the bridge and outside beyond the outer end of works, the depth of water was increased to an average depth of 9 feet at low water, by dredging.

During 1911-12, the sum of $479.75 was expended in urgent repairs to the brush and stone channel protection works, and during 1912-13 the sum of $3,000 was expended by day labour in rebuilding the brush and stone work for a height of 10 feet, for a width of about 12 feet, and for a distance of 200 feet on the north side, and a distance of 255 feet on the south side.

*Dredging.*

It having been deemed advisable to increase the depth to 12 feet at low water, both in the entrance channel and in the basin inside, the contractor, Mr. V. T. Bertram, was permitted to continue the work under an old contract, in addition to the extra depth required, and a new arrangement made with him for the removal of a total quantity of 80,000 cubic yards, scow measure, at 37½ cents per yard, but up to December 2, 1911, when the work had to be suspended for the season, only 63,318 cubic yards of mud, clay and stones were removed. The desired depth was not obtained anywhere, the depth averaging about 9½ feet.

During the year 1912-13, the contractor was permitted to complete the work under the arrangement made during 1911-12, and on June 24, 1912, the dredge *Etang*, and plant, resumed operations and continued until August 3 following, completing the removal of the balance of material arranged for, which consisted of 16,676 cubic yards of mud and stone, at the rate of 37½ cents per yard, amounting to $6,206.63; but owing to the nature of the material, which is mud of an almost liquid nature and runs into the dredged area from its banks, the depth of 12 feet at low water required was not obtained everywhere in the basin.

GRAND NARROWS.

Grand Narrows, Cape Breton county, is on the southeastern side of the Barra Strait, which connects the Great with the Little Bras d'Or lake.

The old wharf near the station of the Intercolonial railway, and serving as a landing place for steamers with mails and passengers from Baddeck, was 287 feet in length, including 67 feet of cribwork, filled with brush and stone and covered with gravel; 80 feet of pile-work built in 1885-6 by the department over the remains of an

old landing pier built by the provincial Government, and an extension 140 feet in length built by the department in 1883-4. The extension consisted of three blocks, each 20 by 20 feet, and an outer block or head, 20 feet in line of work and 60 feet in length with openings of about 16 feet. In 1901-2, and 1902-3, $3,012.16 was expended in reconstructing the wharf, and in extending it to 10 feet, with creosoted timber pilework, the work being then 297 feet in length, 24 feet in width for a distance of 277 feet and 30 feet over the outer 20 feet, with a depth at the outer end at low lake level of 11 feet.

In 1903-4 and 1904-5, $3,901.86 was expended in extending the wharf 57½ feet to 15 feet at low lake level, and in the construction of an 'L,' 30 feet by 30 feet, on the southern side and at the outer end of the extension.

In 1905-6, the sum of $964.44 was expended; $900 for removing the remains of old cribwork, which projected beyond the southern face of the pilework extension, and in constructing a freight shed, 25 feet in length and 12 feet in width, and $64.44 for repairing and strengthening the southwest corner of the 'L,' which had been damaged by a steamer.

During the fiscal year 1906-7, the sum of $56.51 was expended in raising the roof of the warehouse to a proper pitch and in placing a flooring in the warehouse over the covering of the wharf.

During 1912-13, the sum of $229.25 was expended in urgent repairs to the covering of the wharf.

### GREAT VILLAGE.

Great Village, Colchester county, is an important village of about 1,000, situated in a thriving farming district, on the north side of Cobequid bay and on the Great Village river, about one and a half miles from its mouth and about fifteen miles west from the town of Truro, and three and a half miles from Londonderry station, the nearest railway station.

In the year 1891, the department constructed a cribwork wharf on the site of the old structure formerly owned by private parties, and since that date, numerous small amounts have been spent in repairs and renewals.

During the fiscal year 1909-10, the sum of $306.48 was expended in renewing the top of the wharf including planking, floor stringers, guard timbers and mooring posts.

During the fiscal year 1912-13, the sum of $492.70 was expended in constructing a vessel bed having a length of 35 feet, width of 20 feet and depth 5 feet, also in the construction of beach protection, measuring 50 feet in length, 40 feet in width and 3 feet in depth.

Work was begun June 19 and completed July 15, 1912.

### HALL'S HARBOUR.

Hall's Harbour, Kings county, is situated on the south side of the Bay of Fundy, sixty-five miles northeast of Digby Gut and twelve miles southwest of Scott's Bay. It is twelve miles northeast of Kentville, the county town of King's and headquarters of the D. A. Ry. The village has a population of about 150, engaged in fishing and farming.

Between 1839 and 1844, the inhabitants, aided by the provincial Government, built timber retaining walls on either side of the inner harbour, consisting of a land-locked basin, dry at low tide, also a continuation of the sea-wall on the west side, to serve as a breakwater and wharf. In 1884, and many times since that date, expenditures have been made by the department in repairs and renewals, of which full particulars will be found in the departmental reports of 1909-10 to 1911-12.

In 1912-13, the department expended the sum of $785.54 in taking down and rebuilding 60 feet in length of the eastern breakwater wharf, which was dilapidated and threatening to fall.

HAMPTON.

Hampton, Annapolis county, formerly called Chute's Cove, is situated on the southeast coast of the Bay of Fundy, twenty-seven miles northwest of Digby Gut and six miles northwest of Bridgetown, an important station on the Dominion Atlantic Railway. It has a population of about 200 engaged in fishing, farming and the export of cordwood and timber.

In 1855-6, a small breakwater, 165 feet long, was built by the inhabitants, aided by the provincial Government; full particulars in regard to this work will be found in the departmental reports for 1909-10 and 1910-11.

In 1912-13, the sum of $544.03 was expended in general repairs to the breakwater. A piece of solid cribwork break, on the seaward face and shoreward end, was rebuilt, 12 feet long, 12 feet wide and from 5 to 8 feet high; 20 new fenders were bolted into position and the floor of the work was patched and repaired.

HARBOUR AU BOUCHE.

Harbour au Bouche, Antigonish county, on the southern side of St. George's bay, about three miles to the westward of the northern entrance to the Strait of Canso, is a small harbour about half a mile in length and width, with a depth of about 14 feet, the entrance to which was improved by dredging.

The wharf on the western side of the harbour, purchased in 1908-9, and repaired and extended during 1909-10 with materials procured during the preceding year, is 192 feet in length including the original cribwork and pile structure, 21 feet in width, extending 170 feet to 10 feet at extreme low water, with spaces filled to high-water level with brush and stone, and a creosoted pile head 22 feet in line of work by 44 feet, extending to 12 feet at L.W.S. Spring tides rise 5 feet.

In 1909-10 the sum of $397.64 was expended in construction and repairs.

In 1912-13 the sum of $124.58 was expended in procuring and piling part of the covering required for repairs to the wharf.

Total expenditure to March 31, 1913, $3,737.75.

HARBOURVILLE.

Harbourville, Kings county, is situated on the south shore of the Bay of Fundy, fifty-three miles northeast of Digby Gut, nine miles northwest from Berwick on the Dominion Atlantic railway. The population of the village is about 200, engaged in fishing and farming. The harbour, which is only 400 feet long by 200 feet wide, dry at low water, is formed by the mouth of a small brook, and it affords at high water a complete shelter for vessels drawing up to 14 feet.

Works here consist of two breakwaters or piers, one on either side of the entrance to the harbour. They were built before Confederation by the provincial Government. The western breakwater was extended by the department in 1876, since which date numerous small expenditures have been made in repairs, renewals and extensions, of which a full description will be found in the departmental reports for 1908-9 and 1909-10

Spring tides rise 32 feet.

In 1912-13, the sum of $999.65 was expended in miscellaneous repairs to both breakwaters. On the east work, a hole in the north end, 18 feet long, 8 feet wide and 16 feet high, was filled with new cribwork. The rest of the north end close sheathed. On the west breakwater, 62 feet in length by 26 feet in height of the seaward face of the work was newly close sheathed and for the same length, the covering

was renewed. New fenders and miscellaneous repairs were included in the expenditure.

HERRING COVE.

Herring cove, Halifax county, is a small, narrow and nearly land-locked inlet, situated on the western side of the mouth of Halifax harbour, five and one-half miles in a direct line from the city of Halifax. Around the cove is a village of about 150 people, wholly dependent upon the fishing industry, the annual catch being valued at about $100,000.

In the year 1903-4, the sum of $11,475 was expended in the construction of a breakwater on the eastern side of the mouth of the cove to form a protection from the sea.

In the year 1911-12, the sum of $589.14 was expended in the construction of an approach 40 feet long, 60 feet wide and from 3 to 8 feet in height.

In the fiscal year 1912-13, the sum of $1,300.42 was expended in the construction of a wharf 20 feet long by 60 feet wide and from 8 to 12 feet in height. The road approach built last year was graded.

Work begun June 10; completed August 9, 1912.

INVERNESS.

Inverness, formerly known as Broad Cove Marsh, Inverness county, is an incorporated mining town with a population of 3,500, on the northwestern coast of Cape Breton island, about midway between the harbours of Mabou and Margaree, and sixty miles from Port Hastings, on the Strait of Canso, with which it is connected by rail.

McIsaac's pond, now Inverness harbour, is separated from the Gulf of St. Lawrence by a sand beach about 400 feet in width. For the purpose of shipping coal from the mines, many years ago, a company dredged a channel through the beach into the pond, and protected its sides with cribwork and pile work, but after a few years, the channel filled up and was abandoned.

The property was bought by the department with a view of re-opening and protecting the channel.

During 1908-9-10, the sum of $1,592.01 was expended in procuring the necessary native timber required for the reconstruction of 635 feet of the channel protection works on the eastern side of the entrance.

During 1910-11, the sum of $9,911.35 was expended in procuring the creosoted timber required for the reconstruction of the protection work and in the construction and completion of 395 feet of brush and stone work, faced with close-piling and in driving and securing the piles for the outer 240 feet of the protection work, which is to consist of pile-work filled in with brush and stone.

The sum of $3,694.27 was expended during 1911-12, in completing the 240 feet of pile-work on the outer end of channel protection work on the eastern side, commenced during 1910-11; in repairs to the channel protection works on the western side of the entrance, and in excavating a channel 40 feet wide from half tide inside to the same depth outside.

The sum of $10,300 was appropriated for expenditure during 1912-13 towards completion of the proposed improvements for the opening of a 12-foot channel into the harbour and for works for its protection, but as it was found that by the time the plan and specification for the same were prepared, tenders advertised for and received, and contract awarded, it would be too late in the season to commence work; the sum of $2,468.76 was expended by day labour in the construction of a cribwork extension, 112 feet in length, to the protection work on the entrance side of the channel, 16 feet wide for a distance of 96 feet and 20 feet wide for the remaining distance of 16 feet; and in strengthening the beach back of it by deposits of brush and stone.

Plans and specification for the completion of works intended to open a channel through the beach, 50 feet wide at the bottom and to a depth of 12 feet at low water, protected with piers on each side, the whole estimated to cost $70,000, were submitted on February 5, 1913.

JOGGINS.

Joggins Mines is a town of about 2,000 people situated on the shores of Chignecto bay, about fifteen miles southwest of Amherst. Its chief support is the industry of coal mining, which was formerly conducted by the Canada Coal and Railway Company. The interests of this company have been, however, sold out to the Maritime Coal and Railway Company, Ltd., which company also has mines of considerable magnitude at the village of Chignecto, between which point and Joggins the company likewise operates and owns a line of railway.

In 1887, this department constructed a breakwater which is also used as a wharf. In the fiscal year 1905-6 and 1906-7, a road to this breakwater was constructed through the high bank, at the foot of which the breakwater was situated. Since the assumption of this property by the Maritime Coal and Railway Company the development of the mines has been much increased, so that where formerly from 350 to 400 miners were employed at the Joggins, there are now about one thousand men working at this mine. This necessarily increased the output, and required greater shipping facilities. In order to afford the same, in the year 1910-11, this department expended about $9,000 in constructing an extension of the breakwater.

This extension projects at an angle of 30 degrees to the present breakwater, and is constructed of solid continuous cribwork, so that there is now at its outer end about 3½ feet greater depth of water than existed at the former end of the breakwater. This extension is 200 feet in length, the panels of which are 10 feet apart between centres. The seaward face has a batter of 1 to 4, whilst the inner face has a batter of 1 to 12. The height of the work, at the outside end, is 32 feet, the floor being six feet above H.W.O.S.T. The outside portion of this work will be utilized for the larger shipping, whilst the inner portion will be used by the local public for the transmission of supplies, etc. It is only 20 feet wide on top, and the local public were desirous of having a turning place constructed near the junction of the old and new work, so that there would be room to efficiently handle their goods.

During the past fiscal year, the sum of $1,346.35 was expended in constructing the said turning place. Work was commenced on May 20, 1912, and ceased on December 19, 1912. A piece of cribwork 20 feet square and 29 feet high was constructed. Spring tides rise here 38 feet; neap, 32 feet.

JONES HARBOUR.

*Dredging.*

Jones Harbour is situated about twenty-two miles northeast of Shelburne and is on the eastern extremity of Shelburne county. The population is about 150, but there are, at various seasons of the year, from 50 to 60 fishermen who use this little inlet for the purpose of carrying on their industry.

The shipping consists entirely of fishing boats, there being at times about 50 employed at this port. During the lobster season, small steamers call here to obtain lobsters for the markets, and for other shipments. The boats used range from one-half to ten tons burden. The nature of the work was the removal of a number of boulders from the channel leading to the Government wharf. Its object was so that the channel could be used at all times of tide, with every assurance of safety, by the fishing boats of this port. During the season 1911-12, work was commenced on May 29 and completed on June 8, 9½ actual working days being employed, during which time 180 tons were removed at a cost of $900, making the cost per ton $5.

KELLY'S COVE.

Kelly's Cove, Yarmouth county, about three miles south of the town of Yarmouth. About a century ago it was the harbour of the place and around its shores was all that constitutes the town.

Some years before Confederation, the provincial Government built a breakwater, 97 feet long, 23½ feet wide and 16 feet high at the outer end. The first expenditure by the department appears to have been made in 1897-8, when the old work was partially rebuilt.

In 1905-6, the department built a new breakwater about 150 yards west of the old one, at a cost of $7,700, by contract. It was 281 feet long, 26 feet wide, and from 6 to 17 feet high, of substantial native timber cribwork.

In 1906-7, the sum of $99.60 was expended by the department in underpinning the west or seaward side of the work, which was being undermined by the undertow set up by the breakwater.

In 1908-9, the sum of $4,299.99 was expended in building an extension to the work, 90 feet long, 26 feet wide, and from 14 to 16 feet high.

In 1909-10, $650.85 was expended in placing some fenders, omitted the year before, and in building a small block of cribwork, 12 feet square and 6 feet high, on the seaward side of the shore end to prevent scour, and in the removal of boulders from the beach, to the east of the breakwater.

Spring tides rise 14 feet.

In 1912-13, the sum of $348.64 was expended in miscellaneous repairs and renewals to the ancient breakwater, so that it might be used by the fishermen for landing purposes during the winter.

KINGSPORT.

Kingsport, Kings county, is a village of some 500 people, on the southwest side of the Basin of Minas, between the mouth of the Cornwallis river and cape Blomidon. It is the terminus of a branch of the Dominion Atlantic railway running to Kentville, fourteen miles to the south. A pier, 445 feet long, of pile-work, stood here when the harbour was taken in charge by the Department of Public Works. The first work done by the department was in 1873-4, when the eastern or exposed side of the wharf was protected with cribwork.

Since that date, several expenditures have been made in repairs and renewals, of which a full account will be found in the departmental report for 1911-12.

In 1912-13, the sum of $386.95 was expended in emergent repairs to the floor of the pier, which in places was too rotten to bear the weight of carts. Spring tides rise about 45 feet.

KROUT POINT.

Krout point, Lunenburg county, is situated at the entrance to the harbour of Riverport, one of the most important shipping points in the county of Lunenburg. It is about sixteen miles, by river, from the town of Bridgewater and about ten miles from the town of Lunenburg. To accommodate the fishermen of Riverport during the winter months, when their harbour is frozen over, the department, in the year 1912-13, began the construction of a new wharf. The work has a length of 90 feet, width of 25 feet, and an 'L' 110 by 30 feet in width. The expenditure amounted to $2,502.10, and the work will be completed under the 1913-14 appropriation.

Work begun August 5; suspended December 23, 1912.

LARRY'S RIVER.

Larry's River, Guysboro county, is a fishing settlement and harbour at the western extremity of Tor bay on the Atlantic coast of Nova Scotia, 10 miles to the westward of White Haven.

During the season of 1912, the work under contract to the Atlantic Dredging Co. (the improvement of the harbour to accommodate fishing vessels by deepening to 10 feet at extreme low water at the entrance and by increasing the width of the channel and basin, and deepening inside to 8 feet at extreme low water, involving the removal of 81,000 cubic yards of material, measured in place) was in progress from May 1 to September 23, the work being performed by the dredge *Quincy*.

The quantities of material removed were as follows: 37,000 cubic yards, place measurement, of clay, gravel and boulders, which showed an expansion factor of 20·63 per cent, and 398·83 cubic yards of boulders over 2 cubic yards.

The dredging was paid for on the place measurement basis and the cost was as follows.

| | |
|---|---|
| 37,000 cubic yards class 'B' material at 45 cents per cubic yard | $16,650 00 |
| 398·83 cubic yards class 'A' material at $5 per cubic yard | 1,954 15 |
| Total | $18,644 15 |

L'ARDOISE BREAKWATER.

L'Ardoise, Richmond county, is on the eastern side of St. Peter's bay, near its entrance from the Atlantic ocean, and about nine miles to the eastward of the southern entrance to St. Peter's canal.

The outer 400 feet of the breakwater at Martin's point, originally isolated but connected with the mainland in 1903-4-5, consisted of a cribwork core, placed over the remains of a former structure, covered with stone sloping on the seaward side, at the outer end, 3 to 1, and on the inner side, 2 to 1, and having a concrete wall, founded at 4 feet above extreme low water, over the cribwork core on the seaward side, and at the outer end 3 feet in width on top and 4½ feet in height with the top flush with the surface of the stone covering.

Slight disturbances of the stone covering took place yearly from 1900 up to the winter of 1904-5, when, during a furious gale, large masses of ice were thrown against the structure, destroying the covering stone, cutting several gaps through the concrete wall and covering and destroying the cribwork foundation of the concrete wall in places.

In 1906-7-8-9, a new wall of large stones and concrete, founded 2½ feet above extreme low water, was constructed outside of and close against the concrete wall on the seaward side and at the outer end, with the exception of 27 feet on the seaward side, 9 to 36 feet from the outer end; and the covering stones were replaced.

During the fiscal year 1910-11, the sum of $2,515.49 was expended in completing the stone and concrete wall on the seaward side 9 to 36 feet from the outer end; in replacing ballast and covering stones on each side of it; in constructing a concrete wall to protect the stone and concrete wall at the outer end and on the seaward side over a distance of 9 feet from the outer end, and in replacing the covering stones of the slope on the seaward side over a distance of 138 feet from the inner end outward and on the inner side over a distance of 168 feet from the outer end inward.

During 1912-13, the sum of $799.94 was expended in filling in some gaps in the concrete wall on the seaward face of the breakwater with concrete, in order to make it secure until a large appropriation can be obtained to repair the work thoroughly.

LEITCHES CREEK.

Leitches Creek, Cape Breton county, is a settlement at the mouth of a small stream emptying into the head of the northwest arm of Sydney harbour. It is a

station on the I.C.R., seven miles from North Sydney and nine miles from the city of Sydney.

On February 17, 1911, a contract was entered into for the construction of a wharf for the sum of $5,582.

The work of construction was commenced on August 5, 1911, and was completed on January 23, 1912.

The wharf is 324 feet in length and 20 feet in width, extending to 8½ feet at low water, and is a block and span structure consisting of a shore abutment and 8 blocks, all 20 by 20 feet, with connecting spans 18 feet wide. The abutment and blocks are built of round timber, laid open-faced, creosoted to half tide, fully ballasted and fendered and the three outer faces of the outer block are close-sheathed between the fenders.

During 1912-13, the sum of $849.85 was expended in the construction of a road, 650 feet in length and 20 feet in width, to connect the wharf with the public road. This road, for a distance of 400 feet, being along the beach, cribwork had to be built from 4 to 5 feet in height to support the road, and this cribwork was filled in with stone and covered with clay and gravel.

### LEONARD'S COVE.

Leonard's cove, Annapolis county, is a slight indentation in the coast line on the east side of the Bay of Fundy, two and one-half miles east of Parker's Cove. The population comprises about 100, engaged in fishing and farming.

In 1911-12, the department expended the sum of $1,277.98 in beginning the construction of a breakwater, and in the purchase of timber for its extension, for the protection of the fishing fleet. The work built last year was 50 feet long, 20 feet wide and from 5 to 10 feet high.

In 1912-13, the sum of $899.88 was expended in extending the breakwater, by a block of substantial cribwork, 60 feet long, 20 to 27 feet wide and from 11 to 16 feet high. The work is not quite completed, and to finish it will cost about $300. Spring tides rise about 24 feet.

### LITCHFIELD.

Litchfield, Annapolis county, is a fishing and farming settlement on the south coast of the Bay of Fundy, fourteen miles northeast of Digby Gut.

A breakwater was begun by the department in 1904-5, and completed and extended in the three following years (particulars in departmental report for 1911-12).

In 1912-13, the sum of $2,578.21 was expended in completing the 60-foot extension built last year, and in the construction of a further extension, 80 feet long.

The new block still lacks about 6 feet of finished height, and to complete it will cost about $1,400.

### LITTLE ANSE.

Little Anse, Richmond county, is a boat harbour on the eastern coast of Petit de Grat island, which lies to the eastward of Madame island off the southern coast of Cape Breton island.

On September 25, 1911, a contract was entered into in the sum of $21,500 for the construction of a breakwater off Birch point, on the northern side of the entrance to the harbour, for the protection of the anchorage inside.

The work under contract is 600 feet in length and will extend to 12 feet at low water, and will consist of stone approach, 80 feet long and 20 feet wide, and of round timber cribwork extension with creosoted timber substructure, 520 feet in length, 20 feet in width for a distance of 400 feet, and 24 feet in width for the remaining distance. The cribwork is to be filled in solidly with ballast, and its seaward face and outer end are to be close-sheathed.

The work of construction was commenced on June 17, 1912; steady progress was made up to December 28, when the work was visited by an unusually heavy gale, accompanied by a tidal wave, which caused heavy damage. The work was then secured for the winter and operations were suspended, and after that date the work done was as follows: The approach of stone was completed; the whole of the creosoted timber substructure of the cribwork was placed and secured, and the superstructure was completed to within 100 feet of the outer end.

LITTLE BRAS D'OR.

The Little Bras d'Or channel, Cape Breton county, is a narrow and winding passage on the eastern side of Boulardarie island, connecting St. Andrew's channel, an arm of the Bras d'Or lakes, with the Atlantic, entering the latter on the eastern coast of Cape Breton island at a point about five miles to the northward of the entrance to Sydney harbour.

The passage is about 5 miles in length, and has a width averaging 600 feet and a depth of from 3 to 4 fathoms, excepting at its entrance from the Atlantic, where it is obstructed by a bar, carrying but 7 feet at low water.

On April 10, 1912, a contract was awarded to Messrs. McNutt and Landry for the construction of a breakwater, extending from the mainland to the eastern side of and along the edge of the dredged channel to prevent the sand from being carried by the sea into the harbour inside the bar.

The work under contract is 360 feet in length, with a return 100 feet in length, and 20 feet in width on top, consisting of a continuous round timber cribwork, with creosoted timber substructure, filled in solidly with ballast, fendered and close-sheathed on the seaward faces.

The work should have been completed during 1912-13, but owing to the late delivery of materials the contractors asked for and were given an extension of time of completion to December 1, 1913, and the work under contract was not commenced up to March 31, 1913.

*Dredging.*

On July 30, 1912, the departmental dredge *Cape Breton* resumed operations on the channel across the bar, and worked until Aug. 10, when the dredge had to be towed to North Sydney for repairs. Work was resumed on September 9, and continued until November 28, when the dredge ceased operations for the season, when some 50,400 cubic yards, scow measure, of mud, gravel and sand were removed, completing the inner end of the channel for a distance of about 1,300 feet, to the required depth of 20 feet, at low water, and to a width of 120 feet in the bottom.

A further extension of 1,100 feet is required to complete.

LITTLE HARBOUR.

Little Harbour, Lower L'Ardoise, Richmond county, is on the Atlantic coast of Cape Breton island, about nine miles to the eastward of the southern entrance into the St. Peter's canal, and about one mile to the southward of L'Ardoise breakwater.

During 1911-12, the sum of $711.07 was expended in procuring the round timber required for the construction of a small breakwater to protect the boat landing beach for the benefit of the fishermen, and during 1912-13 the balance of the materials required were procured and the work was constructed at an expenditure of $1,457.32.

The work is 175 feet in length and 15 feet in width and consists of a native round timber cribwork structure filled in solidly with ballast and covered in with plank, and extends to about one foot below low water spring tides, which rise 5 feet.

LITTLE NARROWS (NORTH).

Little Narrows (North), Inverness county, is on the northern side of Little narrows, a contraction of St. Patrick's channel, an arm of the Bras d'Or lakes, at a point about seven miles to the eastward of Whycocomagh and fifteen miles to the westward of Baddeck.

In 1908-9, the sum of $140.38 was expended in procuring part of the materials required for the construction of a wharf to extend 70 feet to 12 feet at low lake level; to consist of a shore abutment 14 feet in length and 16 feet in width of stone, and a pile extension 56 feet in length and 16 feet in width with an 'L' on the western side of the outer end, 16 by 16 feet, with creosoted timber bearing, fender and mooring piles.

During the fiscal year 1909-10, the sum of $1,198.06 was expended in procuring the creosoted timber and the balance of other materials required; in constructing the abutment; in driving and capping the bearing piles, and in driving the fender and mooring piles.

During 1912-13, the sum of $563.10 was expended in completing the construction of the wharf commenced during 1909-10.

LITTLE NARROWS (SOUTH).

Little Narrows (South), Victoria county, is on the south side of Little narrows, a contraction of St. Patrick's channel, an arm of the Bras d'Or lakes, at a point about seven miles to the eastward of Whycocomagh and fifteen miles to the westward of the town of Baddeck.

The original wharf was constructed by the department during 1887-8, and consisted of an approach of stone, 10 feet long and 20 feet wide on top; a cribwork block 47½ feet long and 20 feet wide, and a native timber pile extension, 72 feet long and 20 feet wide, with an 'L' 40 feet long and 20 feet wide on the western side of its outer end, and after its completion, a warehouse was built on the western side of the shore abutment.

Owing to damage by the *teredo*, during 1897-8, it was found necessary to reconstruct the outer end; a 'T' head, 60 feet in length was substituted for the outer 20 feet of the wharf and 'L,' and the bearing piles in three bents of the approach were renewed.

During 1901-2, extensive repairs were again made, and in 1902-3 the head was extended outwards a distance of 12 feet, with pile-work.

During the year 1908-9, the sum of $2,646.40 was expended in procuring all the materials required for and in reconstructing the pile-work with creosoted timber. The new works extend to 18 feet at low lake level, and consist of an approach 52 feet in length and 20 feet in width, with a 'T' head, 60 feet long on the channel face, and 32½ feet wide; all bearing, fender and mooring piles, braces, walings and lower chocks being of creosoted timber.

During the fiscal year 1912-13, the sum of $100 was expended in temporary repairs to the cribwork block at the inner end of the pile-work, which was built by the department during 1887-8.

LITTLE RIVER.

Little River, Digby county, is situated on St. Mary's bay, on the inner or eastern side of the peninsula known as Digby neck. It is about five miles northeast from Petite Passage, and twenty-five miles, by road, southwest from Digby town. Within a radius of about two miles is a population of four or five hundred people, engaged in fishing and farming. A fish canning and curing establishment has an annual output to the value of about $8,000. Small steamers plying between Weymouth, Meteghan, St. John and some minor ports on St. Mary's bay, call at the place about four times a week.

In November, 1910, a contract was awarded for the construction of a breakwater wharf, for the sum of $15,877.45. The structure is of substantial stone-filled crib-work, 150 feet long, 30 feet wide and from 12 to 16 feet high, the lower portion being sheathed with creosoted 4-inch plank. The work was finished on October 10, 1911.

In 1911-12, the sum of $891.18 was expended in building a road approach to the breakwater.

In 1912-13, the sum of $84.71 was expended in removing a few large boulders near low water mark alongside the breakwater, and in drilling, blasting and removing a small piece of ledge rock which was in the way of vessels tying up to the breakwater.

The sum of $299.10 was expended in the construction of a freight shed on the breakwater, for the use and convenience of shippers and local merchants.

LIVERPOOL.

*Dredging.*

Liverpool is the shire town of Queens county, situated at the head of Liverpool bay. It has a population of about 2,800, and is a most important shipping port on the southern coast of Nova Scotia.

The total tonnage using the port of Liverpool was between thirty-eight and forty thousand. The number of vessels owned in Liverpool is about 80, ranging from 9 to 200 tons burden each; the total tonnage owned in the port being in the vicinity of 8,500.

The nature of the dredging required was the widening of the present channel from 200 to 300 feet, with an extension of an additional 700 feet in length, making the total length 3,800 feet, and the deepening of this entire length, so that at L.W.O.S.T. there would be 15 feet depth of water. The reason for this was that a larger type of vessels are now being employed in both the lumber and pulp trade. The total estimated number of yards requiring to be dredged was 122,066, place measurement. The material was of a mixed classification: the estimate was 16,700 cubic yards sand, 41,500 cubic yards of sawdust and soft mud mixed, and 63,356 cubic yards of soft mud. This work was commenced on April 19, and ceased on December 18, 1912, during which time a total of 106,860 cubic yards, scow measurement, of material was removed. Work commenced near where the bridge crosses the river, and followed the channel to the full width of 300 feet down the harbour until rocks were encountered; from there, the channel was excavated for a width of 200 feet until a portion of the bar had been dredged. In the middle of the season, whilst dredging operations were being conducted in this harbour, the captain of the dredge reported that he had found a strip some 300 feet in length and from 50 to 60 feet wide, where the removal of rocks would be necessary before he could operate his dredge. Authority was granted for this work, and work was commenced on September 17 and completed on November 15. During that period, 882 tons of rock were removed, which makes the average cost per ton, $5.50. The rocks were embedded in mud to a depth varying from a foot to 3½ feet, and rapid progress was retarded on that account. During the season, however, there was cleared away a strip 30 feet in width by 350 feet in length. At present there is no reason why further work should be done on this, although the channel for a distance of 350 feet has been narrowed to 275 feet instead of 300 feet. Spring tides rise 6 feet; neap, 3½ feet.

LIVINGSTON'S COVE.

Livingston's Cove, Antigonish county, is situated on the southern shore of Northumberland strait about two miles southwest from Cape George.

For the purpose of affording shelter to fishing boats of the district and a landing place for steamers and small vessels, a pier extending to 9 feet at L.W.S. was completed by the department in 1903.

The work is 312 feet in length, and is approached by a road, cut through the clay bank, 105 feet in length. The pier is a continuous structure and consists of a shore abutment, with stone retaining walls, 30 feet long and 18 feet wide, on top; of a cribwork block 80 feet long and 19 feet wide, and of a cribwork extension 202 feet in length and 24 feet in width, with an 'L' on the southern side of the outer end, 24 feet by 24 feet.

In 1912-13, the sum of $2,299.76 was expended in nearly completing an extension 24 by 80 feet and renewing some of the ballast and covering of the old work.

Work was in progress June 20 to 29, July 1 to 31, August 1 to 29, September 2 to 6, October 17 to 31, and November 4 to 8.

### LOUIS HEAD.

Louis Head is situated at the head of the mouth of the Sable river at a distance of about five miles from Lockeport railway station. It has a population of about 350, who are practically all fishermen, a few being engaged in rough farming. There are about 35 fishing boats drawing from 3 to 4 feet of water, the greater number of which are equipped with motor power. This number will be materially increased, and a larger class of boats used, now that better facilities for anchorage are afforded them.

The present breakwater was built in 1892, it being 150 feet long, 20 feet wide on top with a batter of riprap on the outside. It is composed of continuous cribwork sheathed on the outside, having a height of 23 feet at the outer end. Besides this, for its entire length, there is a timber break 4½ feet high, built of 10 by 12 timbers laid one upon the other, separated on the outside by 10 by 12 inch posts, and on the inside by heavy timber knees, by means of which latter it is fastened to the main structure.

During the past fiscal year, the amount of $4,099.96 was expended in repairing the old work and extending it. The work was commenced June 3, and completed on October 23, 1912. The extension, 65 feet in length, is constructed of solid cribwork, ballasted to the top, sheathed and covered, and the old work was repaired. There still remains about one-third of the old work requiring repairs. It is of the same width and style of construction as the old breakwater, with the exception of being 25 feet high at the outer end instead of 23.

Since work ceased, scouring around the outer end of the work which rests in 14 feet of water at L.W.O.S.T., has taken place, so that the outer crib has settled about 2 feet. This occurred in November, 1912. An examination made of it in March, 1913, showed no further settling, and by adding 2 feet in height to the top of the work, the full extent of the damage will be compensated. Spring tides rise 7 feet; neap, 4½ feet.

### LUNENBURG.

Lunenburg is situated on the Atlantic coast, with a population of about 4,000, and is the most important fishing centre in the Dominion of Canada, the fishing business aggregating about one million dollars per annum. The fishing fleet of the town comprises over 100 vessels.

#### *Dredging.*

Work performed consisted of dredging of mud and sand from the front of the wharfs and their immediate vicinity, to provide safe anchorage to a depth of 17 feet below low water.

There were 181,709 cubic yards of mud and sand removed, at a cost of 27½ cents a yard.

MABOU BRIDGE.

Mabou harbour, Inverness county, is on the western coast of Cape Breton island, and Mabou village is on the northeast side of the Mabou river, where it is crossed by a highway bridge at the head of navigation, four miles from its entrance into the Gulf of St. Lawrence.

During 1904-5-6, a small wharf was constructed by the department on the southwestern side of the bridge to accommodate the local traffic by water, and for a landing place for the coasting steamers which ply along these shores during the season. The channel from the wharf to the sea has a depth of not less than 10 feet at low water but is very narrow, and vessels and steamers had great difficulty in turning opposite the wharf. In order to enable them to do so, an arrangement was made with the Atlantic Dredging Company, of Louisburg, N.S., for the dredging, to 10 feet at low water, of a turning basin in front of the wharf, 150 feet in width and 500 feet in length, involving the removal of 14,400 cubic yards, scow measure, of mud.

The dredge *Pepperell*, and plant, commenced operations on October 3, 1912, and completed the work on October 31, removing 14,400 cubic yards of material at the rate of 30 cents per cubic yard, involving an expenditure of $4,320.

MABOU HARBOUR.

Mabou harbour, Inverness county, is on the west side of Cape Breton island, six miles northeast from Port Hood.

The entrance was formerly at the southern extremity of a range of hills and by an intricate channel, obstructed by a bar over which there was a depth of only 4 feet at extreme low water.

The opening of a new channel through the sand hills, at their northern extremity, was undertaken in 1872. A pier, 835 feet in length on the southern side of the new channel, was completed in 1876, and the same year the old channel was closed. Expenditures were made nearly every year from 1876 to 1899 in dredging; in repairs to the piers; the construction of brush and stone works on the southern side, and of protection work on the northern side of the channel.

On completion of work undertaken in 1908-9, the works included: On the south side, the remains of a pier 835 feet in length and 20 feet in width, founded in about 12 feet at extreme low water, sloping from about 10 feet below extreme low water, at the face, to 2 feet above extreme low water at the back.

A brush and stone work, of various widths, extending outwards from the outer end of the pier about 1,600 feet, the inner end of which was 8 feet above, the outer end 5 feet below, low water.

Brush and stone work at the back of the pier, 800 feet in length, 10 feet to 12 feet in width on top and 8 feet in average height.

Brush and stone work 330 feet in length, from 1 to 5 feet above high water, closing the former entrance.

On the north side, 5 piles and brush groynes, four of which are from 75 to 85 feet in length, and one 45 feet.

In 1903, the minimum depth at extreme low water over the bar, about 600 feet outwards from the head of the pier, was 6 feet 3 inches. In July, 1906, the depth over the bar was increased to 16 feet according to report on dredging in 1906-7. This depth had decreased to 13 feet in November, 1907, and to 9 feet in July, 1908.

During the year 1910-11, the brush and stone work, which extends outwards from the outer end of the pier, was raised over a distance of 370 feet from its inner end; and during 1911-12, the sum of $4,166.66 was expended by day labour in the extension of the work for a distance of 135 feet.

During the year ended March 31, 1913, the reconstruction of the breakwater on the southern side of the entrance, commenced during 1910-11 and continued during 1911-12, was continued and the sum of $1,999.85 was expended by day labour in its extension.

The new work consists of a brush and stone core up to high water springs, 12 feet wide on top with sides sloping ½ to 1, and a talus and covering of heavy quarried stone, 9 feet wide at a height of 3½ feet above high water springs, with sides sloping 2 to 1, and top rounded off to a height of 4½ feet above high water springs.

MACKAY'S POINT.

MacKay's Point, Victoria county, is a small settlement on the southern side of the entrance into St. Patrick's channel, an arm of the Bras d'Or lakes, and about 2½ miles by water from the town of Baddeck.

The object of the dredging was for the purpose of cutting a shoal on the eastern side of the public wharf which interfered with the approach thereto.

The departmental dredge *Cape Breton* was ordered to effect the improvement desired, and between the 27th and 31st of May, 1912, she was engaged upon it, and removed some 4,200 cubic yards, scow measure, of clay, gravel and hard-pan.

MAITLAND.

Maitland, Hants county, has a population of about 1,500 and is situated at the entrance of the Shubenacadie river which empties into the Basin of Minas, a large estuary on the Bay of Fundy. The department, between 1873 and 1876, spent $6,342 in the construction of a public wharf, and since that date an additional sum of $2,142.76 has been expended in repairs to the work. During the year 1911-12, the sum of $142.11 was expended in the purchase of planking and material for much needed repairs to the top of the wharf, to be undertaken under the 1912-13 appropriation.

In the fiscal year 1912-13, the sum of $499.45 was expended, $77.20 of this was for repairs made with the material procured during last year, and $422.25 was spent in procuring further materials for repairs to be made under the 1913-14 appropriation.

Work begun September 6, suspended October 5.

MARGAREE HARBOUR.

Margaree harbour, Inverness county, is situated at the mouth of the Margaree river, a large stream emptying into the Gulf of St. Lawrence, on the western coast of the island of Cape Breton, at a point about twenty miles to the northward of the town of Inverness.

For the purpose of improving the landing in front of the fishermen's huts, on the inside of the beach, on May 22, 1912, an Order in Council was passed authorizing the acceptance of the tender of the Atlantic Dredging Company, of Louisburg, N.S., for dredging a basin 800 feet in length and 50 feet wide, to a depth of 8 feet at low water, involving the removal of about 15,000 cubic yards, scow measure, of mud, at the rate of 40 cents per yard, or a total expenditure of $6,000. Subsequently, an additional amount of 2,100 cubic yards of dredging was authorized to enlarge the basin, at same rate as contract.

On July 8, 1912, the dredge *Pepperell*, with plant, commenced dredging operations, and continued until September 26 following, when the work was completed. The total amount of material removed is 16,415 cubic yards of mud, and the cost of its removal was $6,566.

MARGAREE ISLAND.

Margaree island, Inverness county, is situated in the Gulf of St. Lawrence, two and one-half miles off the western coast of Cape Breton island, and twenty-seven miles northeast of Port Hood.

A wharf on the eastern side and near the southern extremity of the island, commenced in 1899-1900, and completed in 1901-2, is 100 feet in length and 20 feet in width, including 28 feet of cribwork, the southern side of which has been strengthened by the construction of a concrete wall 18 feet in length, 4 feet in width and 7 feet in average height, and a cribwork block, 72 feet in length. During 1909-10, the sum of $1,725.90 was expended in reconstructing the outer 40 feet of the work and in repairing and re-ballasting the adjoining cribwork.

During 1910-11, the sum of $245.54 was expended in paying outstanding accounts for materials obtained during 1909-10, and in repairing and re-ballasting the outer 40-foot block.

During the year 1911-12, the sum of $665.76 was expended in repairs to the outer end of the breakwater, which had been badly wrecked during a severe gale in the previous year; the repairs consisting in raising, re-ballasting and covering the outer block and in placing a stone talus on the western side of the inner end of the work.

During 1912-13, the sum of $435.11 was expended in re-ballasting portions of the wharf and in close-sheathing its seaward face and end.

MARGARETVILLE.

Margaretville, Annapolis county, is the most important village on the south shore of the Bay of Fundy, between Digby Gut and Scott's Bay, forty-two miles northeast from the former, thirty-six miles southwest from the latter and nine miles north of Middleton, an important station on the D. A. Ry. It has a population of 500, engaged in fishing and farming.

A pier was begun in 1837, by the provincial Government. It was taken over by the Public Works Department in 1871, since which time it has had frequent repairs, renewals and extensions, a full history of which will be found in the departmental reports for 1907-8 and 1911-12.

In 1912-13, the sum of $2,000 was expended in repairs and renewals to the shoreward end of the work, 60 feet in length of new break on the shore end and seaward side was rebuilt, 10 feet wide and from 12 to 15 feet high; the next 40 feet in length outwards had a new ordinary break; a number of new fenders were placed, and the floor of the shore half of the breakwater was partially renewed.

MCNAIR'S COVE.

McNair's Cove, Antigonish county, is situated on the western side of St. George's bay, about two miles to the southward of Cape George.

This work is fully described in the annual report of 1912.

In 1912-13, the sum of $1,302.06 was expended: $1,056.60 in constructing a timber break, 198 feet in length, 10 feet in width and 5 feet in height on the seaward side, and a brush and stone beach protection work, with a cribwork block at the outer end, to divert a stream on the east side of the breakwater, and $245.46 in renewing sheathing at the outer end of the work.

Work was in progress June 11 to 29, July 2 to 31 and January 1 to 9.

MELFORD.

Melford, Guysborough county, is a settlement about four miles in length on the western shore of the Strait of Canso, about eight miles from Mulgrave.

A contract was entered into on September 1, 1911, for the construction of a wharf at Reeve's cove for the sum of $5,394.00.

Subsequently, it was arranged to construct the wharf at Miller's cove for the additional sum of $1,900.

Work of construction was commenced June 10, and completed August 21, 1912.

The wharf is a block and span structure, 300 feet in length, with an 'L' at the outer end, 20 by 20 feet, of round native timber cribwork, laid open-faced with ties of round timber with an approach 36 feet in length and 20 feet in width on top, with side and outer end walls of broken coursed rubble masonry, and centre filling of stone covered with gravel. Depth at outer end at extreme low water 9½ feet. Spring tides rise 6 feet.

In addition to the amount included in the contract, the sum of $105.94 was expended in constructing and fencing a road to the highway.

Work was in progress October 18 to 29, 1912.

Total expenditure to March 31, 1913, $7,399.94.

### MERIGOMISH (BIG ISLAND).

Big island, Merigomish, Pictou county, is in the Northumberland Strait about 10 miles to the eastward of the entrance to Pictou harbour. It is three and one-quarter miles in length and one and one-eighth miles in width, and forms, with the sand bar connecting its eastern extremity with the mainland, the northern side of Merigomish harbour.

A wharf, built in 1899-1900 on the southern side of the island, was a block and span structure extending 95 feet to 2 feet 6 inches at extreme low water. Spring tides rise 5½ feet.

In 1910-11, the sum of $782.65 was expended in extending the wharf 35 feet to 4 feet at extreme low water, and in repairing the old work. The extension consists of a block 15 feet in line of work by 40 feet, with a span of 20 feet.

In 1912-13, the sum of $249.94 was expended in renewing the guard rails, covering and a few fenders on the old work.

Work was in progress August 15 to 31 and September 2 to 10.

### MERIGOMISH HARBOUR.

Merigomish harbour, Pictou county, is on the southern side of Northumberland Strait, ten miles to the eastward of the entrance to Pictou harbour.

During the year 1880, a wharf was constructed in a cove to the eastward of Hardwood point, and about one mile distant from Merigomish station on the I.R.C., and during 1898-9-1900, it was extended 100 feet by pile-work.

The wharf was then 254 feet long and 20 feet wide on top, consisting of an approach of earth with stone retaining walls, 70 feet long; of block and span work 84 feet long, and of 100 feet of pile-work, with an inclined landing slip at the outer end. Depth at outer end at extreme low water, 1 foot. Spring tides rise 5½ feet.

During 1901-2, the sum of $89.83 was expended in the construction of a small warehouse 10 by 16 feet with 7-foot posts, at the inner end of the approach and in repairs to the approach.

During 1911-12, the sum of $498.89 was expended in procuring timber required for repairing the wharf.

In 1912-13, the sum of $387.63 was expended in completing repairs to wharf, for which materials were procured in 1910-11, and in placing some stone on the approach.

Work was in progress August 7 to 31, September 12 to 17 and October 2 to 12.

METEGHAN.

Meteghan, Digby county, is situated on the south side of St. Mary's bay, Bay of Fundy, twenty-five miles north of Yarmouth, twenty miles south of Weymouth, two and a half miles south of Meteghan and 40 miles south of Digby, the county town.

Next to Digby and Yarmouth, Meteghan is the most important settlement on the bay shore, having a population of 1,000 engaged in farming, fishing, lumbering and general trade. The harbour works consist of a breakwater and a landing pier, both of native timber cribwork, and both built between 1837 and 1860, by the provincial Government and the inhabitants. The pier is 200 feet long and 30 to 40 feet wide. The breakwater is 925 feet, with an 'L' of 85 feet at the outer end. Since 1875, numerous expenditures were made by the department in repairs and renewals, of which an account will be found in the departmental report for 1911-12.

In 1912-13, the sum of $4,403.62 was expended in the partial rebuilding and extension of the wharf. 50 feet in length of the middle portion of the old work was taken down 6 feet deep by 17 feet wide and rebuilt; the next 50 feet outwards was entirely taken down and rebuilt, 21 feet wide and 20 feet high; on the outer end of the work an entirely new block was also built, 50 feet long, 30 feet wide and 24 feet high, the whole in substantial stone-filled native timber cribwork.

METEGHAN RIVER.

Meteghan river, Digby county, empties into the Bay of Fundy near the lower end of St. Mary's bay, almost directly opposite Grand passage. The village near the mouth of the river is twenty miles south of Weymouth, twenty-eight miles north of Yarmouth and two and one-half miles north of Meteghan. The population of the place is about 500, engaged in fishing, farming and lumbering. The works here, which were built before Confederation, presumably at the joint expense of the inhabitants and the provincial Government, consist of two breakwaters, one on either side of the river mouth, inclosing an area of about three acres, in which, at H.W.O.S.T., is a depth of 10 to 15 feet of water.

Since 1873, numerous expenditures were made by the department in repairs, extensions and improvements, a full account of which will be found in the departmental reports for 1908-9 and 1911-12.

In 1912-13, the sum of $2,597.33 was expended in building an extension to the north breakwater, the new block being 70 feet long, 25 feet wide and from 10 to 14 feet high. Repairs were also made to both north and south breakwaters.

MILFORD HAVEN.

Milford Haven, Guysborough county, is an extensive inlet at the head of Chedabucto bay. The entrance is obstructed by an outer bar with 17 feet, and an inner bar with 13 feet, at low water. Guysborough, the county town, is advantageously situated on the western side of the harbour, the deep water approaching close to its wharfs. The inlet is navigable for ships to the narrows, four miles inland, where the minimum depth at low water is about 9½ feet. Small vessels may proceed three miles farther, and boats to the head of tide, 8½ miles from the entrance.

At the narrows, the inlet was formerly crossed by an old drawbridge, which was replaced in 1902 by a new bridge built 250 feet farther inland. The piers of the old structure were cut down to about low water and became a menace to navigation, causing the loss of one vessel. When examined last year it was found that the tops of the central pier and the pier on the west side of it were, respectively, 10 feet and 6 feet below low water and that the top of the pier on the east side was level with low water.

In 1911-12, the sum of $136.84 was expended in procuring and storing dynamite and fuse to be used in removing obstructions.

In 1912-13, the sum of $322 was expended cutting down the pier on the east side of the central pier (which was found to be the only obstruction) from low water to 11 feet below low water. Spring tides rise 7 feet.

Work was in progress July 23 to 31 and August 1 to 7.

### MILL COVE.

Mill Cove is situated on the eastern side of Halifax harbour and affords safe harbourage for a number of small vessels. A marine slip is situated here and a large amount of business is done from the cove. Boiler works are located here and a great many steamers put in for boiler and other repairs. A large amount of shipping is done by John P. Mott & Co's soap and confectionery works, by the Dartmouth Rolling Mills and the Dominion Molasses Company, all of which concerns have their wharfs in Mill Cove.

The object of the work is the deepening of the cove to 18 feet below low water for accommodation of shipping.

Some 60,243 cubic yards of mud and boulders were removed at a cost of 29 cents a yard.

### MILL CREEK.

Mill Creek, Kings county, is a small farming settlement of a couple of hundred people, situated on the eastern side of the Basin of Minas, three miles south of Blomidon, four miles north of Kingsport, the terminus of a branch of the D. A. Ry.

About twenty years ago, the inhabitants began the construction of a small pile wharf, 160 feet long and from 20 to 25 feet wide, but funds gave out and the work was left unfinished. Between 1899 and 1911, the department made numerous small expenditures in repairs, renewals and extensions, of which a full description will be found in the departmental reports for 1906-7 and 1910-11.

In 1912-13, the sum of $1,000 was expended in rebuilding 140 feet in length of the shore end of the wharf in stone and brush. Underneath the shoreward end of the pile-work, a piece of cribwork, 40 feet long, 12 feet wide and from 4 to 8 feet high was built, to prevent the sand and gravel from washing through; 125 feet in length of the main part of the wharf was also refloored. Spring tides rise about 45 feet.

### MIRA GUT.

The Mira river, Cape Breton county, is an important stream, emptying into the Atlantic ocean at Mira bay, at a point about fourteen miles southeast from the city of Sydney.

The river is navigable for small vessels and steamers drawing not more than 6 feet, for a distance of about 24 miles from Mira Gut, at its entrance, where it is obstructed by a mussel bar, 1,100 feet in width, and with a depth of only 4 feet at low water over it.

The sum of $950 was authorized for expenditure during 1912-13, in the improvement of the channel across the bar, and out of the amount, the sum of $940.61 was expended in deepening the water over the bar, by scraper dredging, to a depth of 7 feet at low water in a channel about 80 feet in width, removing about 8,500 cubic yards of material, in place.

The work was done by day labour and consisted in stirring up the fine sand and sea-shells forming the bar, with a spring harrow moved by a motor-boat and permitting the tidal current outward, which has a velocity of six miles an hour to carry the light material out to sea. The work was of an experimental nature and proved successful. The crew employed consisted of a foreman, engineer and two men.

MORDEN.

Morden, Kings county, (formerly called French Cross) is a small fishing and farming village of about 150 people, situated on the south shore of the Bay of Fundy, fifty miles northwest of Digby Gut, nine miles north from Aylesford station on the D. A. Ry. A breakwater was begun in 1846 at the joint expense of the inhabitants and the provincial Government. It is 365 feet long, from 28 to 45 feet wide, and from 10 to 26 feet high. It has had many repairs, renewals and extensions, complete details of which will be found in the departmental reports for 1904-5 and 1911-12.

In 1912-13, the sum of $300 was expended in rebuilding 42 feet in length of the shoreward end of the seaward side of the breakwater, which was in an advanced stage of decay. The new work is 11 feet wide and from 10 to 12 feet high, of ordinary cribwork.

MUSHABOOM.

Mushaboom, Halifax county, is situated to the westward of Sheet harbour, near its entrance. It has a well sheltered harbour, well adapted to the fishing industry, and has a population of about 150, engaged almost wholly in fishing. Thirty well equipped boats are used in the industry and the annual catch amounts to about 500 quintals of cod and 2,000 barrels of herring, the value of which is from $10,000 to $12,000.

In the year 1912-13, the sum of $2,000 was voted for the construction of a small wharf, but owing to the difficulty in procuring material, this work has not been completed. The amount of $805.75 was expended in the construction of a stone approach and the building of one crib. Work was begun July 3, and suspended July 24, 1912.

MUSQUODOBOIT.

Musquodoboit Harbour, Halifax county, is an important post village and port of entry, situated twenty-eight miles east of Halifax harbour. It contains three stores, three hotels, four saw-mills, telephone and telegraph offices, and has a population of about 500, engaged chiefly in farming and lumbering. The annual shipment of lumber is about eleven million feet. There is no rail communication, and the business of the village is done mostly by packet with Halifax, all supplies and merchandise being handled in that way.

In the fiscal year 1912-13, the sum of $1,404.40 was expended in the partial construction of a cribwork wharf. A length of 60 feet with 50-foot face and height of from 4 to 16 feet was built and a shed 18 by 24 feet for the convenience of shippers was erected. The amount of $127.74 was also expended in purchase of timber for next year's work. Owing to the difficulty in procuring sufficient timber, the work was not completed and will be continued under the 1913-14 appropriation. Work begun August 27; suspended December, 1912.

NECUM TEUCH.

Necum Teuch, Halifax county, is situated on the east side of Necum Teuch bay at the mouth of Mosers river. It is sixty-eight miles in an air line ENE. of Halifax, and six miles from Salmon River. The population of the place is about 400, engaged in farming and lumbering.

In the fiscal years 1902-3-4, the sum of $5,211.58 was expended in the construction of a wharf. The work is 394 feet long and 20 feet wide, with an 'L' on the outer end, giving a face length of 40 feet and a width of 30 feet. There is a depth of 16 feet of water at H.W.O.S.T. In the fiscal year 1910-11, the sum of $396 was expended in covering the wharf, for its entire length and width of 10 feet, with 2-inch planking, and in taking down and rebuilding the outer face of the 'L.'

In the year 1912-13, the amount of $494.52 was expended in placing a number of fenders along the outer face and north side of the work, and a group of fenders strongly bolted to the corners. The new portion of the work, on the inside of the shed on the north side, was raised and new guard timbers were placed around the outer end of the wharf, a portion of the planking was replaced. The work was damaged by a storm in December. Work begun July 8; completed July 30.

### NEIL'S HARBOUR.

Neil's Harbour, Victoria county, is situated on the eastern coast of Cape Breton island, about midway between Ingonish and Aspy bays.

The harbour is at the entrance of a small bay, open to the south and southeast and extending inland about half a mile. It is sheltered from the north and east by Neil's head, a rocky promontory from 10 to 20 feet above the level of high water springs, but not safe during gales from the south and southeast.

It is a large and important fishing station, and for the purpose of affording protection to the anchorage during southeasterly gales, and a landing for small vessels, during 1901-2-3 a breakwater, extending to 17 feet at low water, was constructed off the southern end of Neil's head, and connected with the public road by a road 79 feet long and 20 feet wide, cut through the bank. The breakwater, excepting the inner end, for a distance of 44 feet, which is of round native timber cribwork, consists of close-faced squared timber work, 20 feet wide for a distance of 114 feet from the inner end, 24 feet wide for a further distance of 80 feet and 56 feet wide for the remaining distance of 32 feet. The work is very strongly constructed, is filled in solid with ballast, and is close-sheathed on the seaward faces, the outer end and on the inner face for a distance of 112 feet from the outer end. The substructure is of creosoted timber, and the seaward side is protected by a stone talus.

During 1904-5-6, several rocks and boulders were removed along the inner face of the breakwater, and the stone in the talus, which had been flattened out, was raised by placing 729 cubic yards of heavy stone upon it, and during 1907-8, a large amount of stone, aggregating 170 cubic yards, which, during a heavy gale, had been carried by the sea over the breakwater into the dock inside, were removed by divers and placed again on the talus.

During the year ended March 31, 1909, the sum of $778.76 was expended in raising the talus on the seaward side of the breakwater to high-water mark; filling in the spaces between the stones with concrete, and in filling in with large stones laid in cement a space about 20 feet wide between reefs to the eastward of the inner end of the breakwater where the sea at high-water, during storms from the eastward, rolled in with great force and, striking the seaward face of the work, disturbed the stone in the talus, and a lot of stone which had been washed over the work by the sea and deposited inside, was removed by divers and placed again on the talus.

During the year 1911-12, the sum of $207.10 was expended in necessary repairs to the covering and cap-timbers on the breakwater.

During the year ended March 31, 1913, the sum of $1,698.79 was expended by day labour in the construction and placing of six concrete blocks, 10 feet in length, 10 feet high and 8 feet wide at bottom and 4 feet wide on top, bedded at low water on top of the stone talus, in the corner formed by the breakwater and the 'L' for the purpose of strengthening it.

### NEW HAVEN.

New Haven, Victoria county, is an important fishing station at the head of a small cove, on the Atlantic coast of the northern extremity of Cape Breton island about midway between Ingonish and Cape North.

During 1893-4, the department cut a small dock into the beach for the benefit of the fishermen, and a small cribwork pier, 64 feet in length and 20 feet in width, was constructed on its southern side for its protection.

During the year ended March 31, 1913, the sum of $1,435.54 was expended in repairing the pier on the southern side of the dock, and in extending it for a distance of 24 feet, and in building a small pier 72 feet in length and 16 feet in width on the northern side of the dock.

NEWELLTON.

Newellton is situated on the Cape Sable island, about two and a half miles northwest of Clark's harbour. In the year 1899, a wharf was commenced, in order to accommodate the ferry steamer which plies between Barrington Passage and Cape Sable island. This wharf has from time to time been extended, and has become one of the most important and necessary public works on this shore. The accommodation again became limited, the demands being greater than what the facilities could afford, so that during the past fiscal year the sum of $619.43 was expended in further extending this work a distance of 20 feet. Construction commenced on October 1, and ceased on December 16, 1912.

The work is constructed on pile trestle bents, separate 10 feet apart. The front of the wharf and the outside was close-piled. It is well fendered and strongly fastened, the material being sound and of full specified sizes. Spring tides rise 10 feet; neap, 7 feet

NEWPORT LANDING.

Newport Landing, Hants county, is situated on the east bank of the Avon river, about two miles below the town of Windsor, and on an isolated neck of land between St. Croix river, on the south, and Kennetcook on the north, and is distant fourteen miles from Windsor, by land. The nearest railway station is Brooklyn, on the Midland railway, about six miles distant. It is a rich agricultural district with a population of about 500. Most of the trade of the place is carried on by water with the town of Windsor.

In 1904-5, the sum of $1,665.28 was expended in the purchase of necessary timber and in commencing the construction of a public wharf. In 1905-6, the sum of $3,348.72 was expended in the completion of the work. The wharf is 240 feet long, 35 feet wide and, at the outer end, 20 feet high. Spring tides rise about 40 feet.

In the fiscal year 1912-13, the sum of $61.87 was expended in temporary repairs, renewal of planking, fenders, etc. Work was begun July 8; completed July 13, 1912.

NORTH RIVER.

North river, Victoria county, empties into the northern arm of St. Ann's harbour, on the eastern coast of the island of Cape Breton.

A wharf was constructed by the department during 1898-9-1900, at Seymour point, on the northern side of the mouth of North river. It extends to 9 feet at low water and it consists of a road approach, 64 feet long and 16 feet wide; of a block and span work, 63 feet long and 20 feet wide, and of creosoted timber pile extension, 175 feet long and 20 feet wide, with an 'L,' 20 by 20 feet, at its outer end.

As the top of the wharf was getting weak, through wear and natural decay, during 1908-9 the sum of $968.53 was expended in the renewal of a portion of the floor stringers, the whole of the plank covering, the cap and the chocks between the heads of the fender piles.

During the fiscal year, 1912-13, the sum of $1,399.11 was expended in completing the repairs commenced in 1908-9. The floor stringers, the cap timbers, part of the

covering and all the fender piles were renewed, and the warehouse which was on the 'L' was moved back into the angle between the approach and the 'L,' and placed on an independent pile foundation.

NORTH SYDNEY.

North Sydney, Cape Breton county, is on the northern side of Sydney harbour, about four miles from its entrance and is the terminus of the Intercolonial railway, which connects here with the Reid Company's steamers plying daily and carrying mails and passengers between Port au Basques, Newfoundland, and North Sydney.

The Reid Company's steamers lie on the southern side of the wharf, which has a length of about 440 feet. These steamers have a length of 270 feet, a width of 36 feet, and draw 18 feet when fully loaded, and several times, during low water, their bows have touched bottom and, on one occasion, went hard aground.

The depth of water at low water, at outer end of the southern side of wharf, was 26 feet, decreasing gradually to 14 feet at the inner end; in order to render the berth safe for these steamers, the departmental dredge *Cape Breton* was detailed to dredge the inner end of the berth, 75 feet in width, to a depth of 20 feet at low water, and this was accomplished between the 28th and 31st day of August, 1912, by the removal of some 3,100 cubic yards, scow measure, of mud and gravel.

North Sydney is also the shipping place for all the coal shipped from the collieries, and the landing place for the iron ore imported by the Nova Scotia Steel and Coal Company, required in the manufacture of iron and steel at their steel plant in Sydney Mines.

The Company have erected large and convenient shipping piers, both for the shipment of coal and for receiving the iron ore, and steamers with a draft of 26 feet were loaded and discharged at them at all times of tide.

As a greater depth was desired, to accommodate steamers of a greater draft at the ore pier, the government dredge *Cape Breton* was engaged from January 12 to 25, 1912, and worked there part of seven days removing some 2,600 cubic yards, scow measure, of sand and stone, but owing to the lateness of the season, the work was suspended.

Dredging at the ore pier was resumed by the *Cape Breton* in May, 1912, but after three days work and the removal of 400 cubic yards, scow measure, of loose rock, the work had to be suspended owing to the presence of solid rock, which the dredge could not handle. When the dredge ceased operations there was a depth of not less than 28 feet at low water at the ore pier.

NORTH WEST COVE.

North West cove (Tancook), is situated on Big Tancook, the largest of a host of small islands in Mahone bay, on the coast of Lunenburg county. It is about two and a half miles in extreme length north and south, by about a mile in width, east and west. It is nine miles northeast of the town of Lunenburg, the same distance southeast of Chester, and about two miles southwest of the Aspotogen peninsula, which is the nearest mainland. The island has a population of about 600, for the most part dependent on fishing, but doing a considerable amount of farming in the way of raising early vegetables.

The breakwater, which is situated on the northwestern side of a large cove, on the northern end of the island, was built in 1873, at the joint expense of the Department of Public Works and the provincial Government, each having expended $2,000. It is 200 feet long with a spur at the outer end, having a face length of 95 feet, and is built partly of piles and partly of cribwork, the first 165 feet being of cribwork, and the remainder, including the spur, or 'L,' of piles. In 1887-8, repairs and renewals

were effected. In 1899-1900, thorough repairs and renewals were effected to the cribwork portion of the structure.

In 1901-2, the department expended the sum of $936.48 in completing repairs to the wharf begun last year. The work consisted of the renewal of the pile-work in the outer portion of the wharf and the re-flooring of the whole outer end of the 'L.' In 1903-4, the sum of $195.99 was expended in driving 35 new piles to replace those broken by ice the previous winter, the placing and bolting of 47 running feet of waling, 55 feet in length of new guard timbers, and sundry repairs to planking.

In the year 1912-13, the sum of $207.97 was expended in repairs to the planking, stringers and fender-piles of this wharf. These repairs were made in order to make the old work safe, until the new breakwater is built. Work begun May 25; completed July 16.

### OGILVIES.

Ogilvies, Kings county, is situated on the south shore of the Bay of Fundy, fifty-five miles east of Digby Gut and eleven miles north of Aylesford on the D. A. Ry. The breakwater was built in 1854 by the inhabitants, aided by the provincial Government. It was 27 feet long, 38 feet wide on top and about 27 feet high at the outer end, built of ordinary cribwork. Between 1854 and 1906, numerous expenditures were made by the department in repairs and renewals, of which a full account will be found in the departmental report for 1905-6.

In 1912-13, the sum of $999.81 was expended in building a piece of cribwork, 47 feet wide, 15 feet long, and from 10 to 14 feet high, as a bulkhead or protection to the shore end of the breakwater, of which the destruction of most of the outer end was completed in February and March, 1912. Spring tides rise about 28 feet.

### PEGGY'S COVE.

Peggy's cove, Halifax county, is situated at the entrance to St. Margarets bay, on the east side, thirty miles from Halifax, and has a population of about 200, engaged chiefly in fishing.

During the fiscal year 1912-13, the department expended the sum of $400 in the construction of a sea wall, 70 feet in length and 6 feet in height, the material used being large loose boulders. Work begun November 1; completed November 15, 1912.

### PETIT DE GRAT.

Petit de Grat, Richmond county, is a settlement situated on both sides of Petit de Grat inlet, which divides Madame island from Petit de Grat island. The main entrance is at the southern end from the Atlantic; the northern entrance, from Rocky bay, is obstructed by outer and inner bars, through which passages for boats at ordinary low water were opened by the department.

The object to be obtained by dredging is the deepening of the main channel and the approaches to the wharfs, to a depth of 13 feet at low water, to permit small vessels to approach and leave them at all times of tide.

During 1909-10, Messrs. Beazley Bros., of Halifax, improved, by dredging, the approaches to Jean's, Duff's and Comeau's wharfs, removing some 10,945 cubic yards of mud and 45¾ cubic yards of rock.

On July 11, 1910, a contract was entered into with the W. J. Poupore Company, Ltd., of Montreal, for dredging 35,000 cubic yards, scow measure, at 55 cents per cubic yard. The contract expired on December 19, 1910, and as no work was done under this contract, it was extended to December 19, 1911.

On May 29, 1911, the dredge *Prince Gay* commenced operations and continued until July 12, removing 6,530 cubic yards of hard-pan and small boulders, and as the

plant was found too light for the heavy work required, the dredge was dismantled and another dredge, the *Pontiac*, was placed in commission to take her place. This dredge commenced operations on July 31 and continued until August 12, when she was burned down and sank at her moorings. During this period, this dredge removed some 3,900 cubic yards of hard-pan.

On May 9, 1912, the extension of the contract with the W. J. Poupore Co., Ltd., was extended by Order in Council, and on October 11, the company's dredge *King Edward* resumed the work under contract and continued until November 20, when the work under the original contract was completed. The amount of material removed during 1912-13, consisted of 22,031 cubic yards, scow measure, of clay and small boulders, and of 281$\frac{12}{27}$ cubic yards of boulders containing 2 cubic yards and over.

The total amount of material removed under this contract is 32,742½ cubic yards scow measure, of which 32,451 cubic yards consisted of mud, clay and small boulders, and 291½ yards of boulders containing 2 cubic yards and over; the former at the rate of 55 cents, the latter at $5, per cubic yard.

### PETITE RIVIÈRE.

Petite Rivière, Lunenburg county, is the centre of a thriving farming and lumbering district, situated about twelve miles from the town of Bridgewater, in a southwesterly direction. The village, which has a population of about 500, is situated near the mouth of a small river, from which it takes its name. The nearest railway station is six miles distant and the nearest harbour, La Have, six miles. A small harbour is formed by the channel of the river which empties into a shallow bay through a sand beach.

From 1905 to the end of the fiscal year 1908, the department constructed a breakwater, 1,220 feet long, the first 900 feet being 16 feet wide, and the outer 320 feet being 20 feet wide. It is from 5 to 13 feet high and rests on a mattrass of brush and stone from 20 to 30 feet wide and about 2 feet in thickness.

During the fiscal year 1911-12, the sum of $340.63 was expended in making necessary repairs to the work which had settled, owing to the scouring of the sand under the breakwater.

During the fiscal year 1912-13, the sum of $2,385 was expended in raising the breakwater where it had settled in a number of places, and in making miscellaneous repairs. Work was begun August 1; completed September 19.

### PHINNEY COVE.

Phinney cove, Annapolis county, is a slight indentation in the coast line of the south side of the Bay of Fundy, nine miles east of Parker's cove and three miles west of Hampton. The population of the place, within a radius of a mile and a half, is 150, engaged in fishing and farming.

In 1907-8, the department built a breakwater, by contract, at a cost of $5,700. It was 200 feet long, 27 feet wide and from 9 to 23 feet high.

In 1910-11, the work was repaired and extended.

In 1912-13, the sum of $2,342.47 was expended in completing the extension to the breakwater built last year, the new block being 30 feet long, 27 feet wide and 25 feet high; also in the construction of a further extension, 40 feet long, 27 feet wide and 26 feet high, both extensions being of substantial stone filled cribwork.

### PICKET RIVER.

Picket river, Kings county, so-called, is situated on the south side of the mouth of the Habitant river, two miles below the village of Canning, and at the lower end of the village of Canard. The wharf was begun in 1845 by the inhabitants, aided by

the provincial Government. Since 1878, the department has made numerous small expenditures in repairs and renewals, of which a full account will be found in the departmental report for 1904-5.

In 1912-13, the sum of $150.36 was expended in renewing about 1,700 square feet of the wharf covering and the replacing of about 40 tons of ballast.

### PICTOU.

The town of Pictou is situated on the north side of Pictou harbour on the Northumberland Strait, two miles within the entrance.

Dredging at Pictou was undertaken with the object of improving the accommodation for large steamers by deepening on the east side of the eastern I.C.R. pier to 20 feet at L.W.S. over an area of 22,750 superficial feet, involving the removal of 4,130 cubic yards alluvial deposit, soft clay ,measured in place. The scow measurement returns totalled 4,760 cubic yards showing an expansion factor of 15 per cent.

The work was performed by the dredge *George McKenzie* from May 27 to June 27, 1912.

### PIPER'S COVE.

Piper's cove, Cape Breton county, is on the northeastern end of the Great Bras d'Or lake, between the entrances to East bay and Barra Strait, the latter connecting the Great with the Little Bras d'Or lakes.

In 1910-11, the department expended the sum of $5,110.74 in procuring nearly all the materials required for the construction of a block and span wharf, 206 feet in length and 20 feet in width, with an 'L' on the northern side of its outer end, 40 by 20 feet and extending to 8 feet at low water, for a landing and to form a shelter for small boats.

During the year 1911-12, a road was constructed at a cost of $523.66 to connect the shore with the public road, about 1,600 feet in length and 16 feet in width on top, including two small bridges and eight small culverts.

During the fiscal year ended March 31, 1913, the sum of $1,992.93 was expended in the construction of the wharf, excepting the outer block and 'L,' 20 by 60 feet, but the substructure of this has been built on the shore and is ready to be launched in the spring. The substructure of all blocks is of creosoted timber.

### PLEASANT BAY.

Pleasant bay, Inverness county, is on the western coast of Cape Breton island, twenty-four miles north of Cheticamp and about midway between that place and Cape St. Lawrence.

A contract was entered into on January 29, 1906, for the construction of a wharf, for the sum of $7,500. The contract was for a continuous structure, 210 feet in length and from 16 to 20 feet in width, with an 'L' at the outer end, 20 by 20 feet, creosoted to half tide, fully ballasted and close-fendered on both sides and at the outer end.

During the year 1905-6, all the materials required for the construction of the wharf, with the exception of the ballast, were delivered. The contractor commenced the construction of the cribwork early in June, 1906, but up to the end of that month, no work had been placed.

During the fiscal year ended March 31, 1907, the work under contract was completed and extra work costing $150 performed. The extra work consisted in the construction of a bridge, on the right-of-way leading to the wharf, with brush and stone and frame work abutments, 12 feet long, 8 feet wide and 10 feet in height, placed 10 feet apart.

During 1912-13, the sum of $1,182.67 was expended in the renewal of top of bridge in the approach to wharf, the inner block of the wharf was rebuilt, the hardwood fenders and sheathing around the outer end were renewed, steel plates were placed around the three outer corners and the road approach to the wharf was repaired and improved.

### PORT DUFFERIN.

Port Dufferin, Halifax county, formerly called Salmon River, is a thriving village of from 500 to 600, engaged in fishing, farming and gold mining. It is situated at the mouth of Salmon river which empties into an inlet known as Beaver harbour, about eighty-four miles east of Halifax by high road and about half way between Halifax and the harbour of Canso.

In 1898-9, the sum of $1,646.69 was expended in constructing a public wharf. The completed wharf consists of a stone and earth embankment 116 feet long, 35 feet wide, and a cribwork block 142 feet long and 28 feet wide, with an 'L' on the outer end giving a face length of 56 feet. In 1904-5, the sum of $481.16 was expended in making repairs to the structure. In the fiscal year 1910-11, the sum of $1,233.39 was expended in rebuilding the old cribwork wharf in pile and timber trestle. The completed work is 120 feet long, 35 feet wide, with an 'L' 35 by 45 feet. During the fiscal year 1911-12, the sum of $207.41 was expended in extending the earth and gravel approach.

During the fiscal year 1912-13, the sum of $2,938.03, was expended in the construction of two cribs 20 by 20 feet each, from 10 to 15 feet in height, placed 10 feet apart, and in the purchase of timber for the completion of the work in solid cribwork, during the next fiscal year. Work begun September 2, 1912; suspended March 19, 1913.

### PORTER'S LAKE.

Porter's lake, Halifax county, is a long narrow strip of fresh water, lying north and south, and situated about the middle of Halifax county, or about fifteen miles east of the provincial capital. It is about eighteen miles in length, from a quarter to half a mile wide and the water being of good depth, for almost its entire length, is navigable for vessels of 60 tons to its extreme head. The normal level of the lake is some 2 or 3 inches above H.W.O.S.T.

Up to about 1873, the outlet, which is directly into the Atlantic, through a gravel beach 200 feet wide, was navigable for schooners drawing six feet of water, and a considerable trade was done in the lake in the export of lumber, timber, cord-wood, farm produce and fish. Since that time, the outlet has been gradually and permanently filling up with accumulations of gravel washed in by southerly and easterly storms.

In order to maintain the outlet, to prevent the road along the margin from being flooded, and to admit fish into the lake, the department expended, in 1898, a total of $2,031.14 in sums of from $40 to $100.

In 1901, numerous expenditures had been made on the permanent outlet, described in detail in departmental reports of 1907-8. These expenditures having resulted in but slight temporary relief, and no permanent improvement, the department, in 1900-1, expended the sum of $8,262.44 in beginning the construction of a permanent channel through the neck of land, 2,400 feet wide, separating the main body of the lake from the extreme head of Three Fathom harbour. The total expenditure on this attempt at a permanent outlet has been $23,407.22, the last being $1,484.52 in 1908-9.

In 1908-9, the sum of $106 was expended in re-opening the old outlet, and the sum of $596.86 in a new experimental outlet through Half Island beach. This has not proved a success, owing to the great exposure of the beach and the filling up of the

outlet by sand and gravel after every heavy storm. The sum of $1,484.52 was further expended in deepening the permanent outlet.

During the year 1909-10, the sum of $176.69 was expended in opening, and keeping open, the old outlet.

During the fiscal year 1910-11, the sum of $506.39 was expended in widening and deepening the permanent outlet at the head of Three Fathom harbour. The earth has been removed from the Three Fathom harbour end of the work, on the west side of the cut, a distance of about 900 feet. The intention now is to widen the channel to 30 feet at the bottom and to deepen it to a depth of 6 feet below H.W.O.S.T.

During the fiscal year 1911-12, the sum of $8,242.02, was expended in widening and deepening the channel.

During the fiscal year 1912-13, the sum of $217.20 was expended in opening, and keeping open the old outlet.

The work was done as required at various times between June, 1912, and January, 1913, inclusive.

PORT GREVILLE.

Port Greville is a village of about 400 people situated twelve miles west of Parrsboro. Important shipbuilding and lumbering interests are located here, which interests are mainly dependent upon the security of the harbour.

The harbour is formed by a high gravel bar lying parallel to the shore, inside of which the river runs for half a mile before reaching L.W.O.S.T.

For the purpose of protecting the harbour, the department, in 1874, constructed upon this gravel bar or beach a cribwork beach protection 220 feet long, 10 feet wide on top, with an average height of 7 feet. This was rebuilt in 1902-3.

In the fiscal year 1886-7, the department constructed a breakwater off the eastern end of this protection which was 250 feet in length, 21 feet in width on top, with an average height of 20 feet.

It has a slope at the seaward end of ½ to 1, whilst the seaward and outer faces were sheathed with 6-inch plank. In the fiscal year 1905-6, this work was extended a further distance of 180 feet, being the same width as the former portion of the work and having a height at its outer end of 36 feet, with the seaward and outer faces being both sheathed with 5-inch hewn timber.

During the past fiscal year, the sum of $4,828.73 was expended in partially constructing a wharf. For the ensuing fiscal year 1913-14, an additional amount of $1,250 has been asked to complete the work begun. The work was commenced on June 19, 1912, and ceased on September 9, 1912.

The wharf when completed, will be 90 feet long, with a frontage of 120 feet, which will be constructed of cribwork 30 feet in length, pilework 35 feet in length and a cribwork end, 25 feet in length, the common width of the wharf being, as stated before, 120 feet. The work done during the past fiscal year consisted of the construction of the two pieces of cribwork and the pile trestle bents with the exception of a portion of the top which still requires to be done, and the placing of a number of fenders. The covering, together with about two-thirds of the stringers and fenders, are yet required. The work itself has been thoroughly fastened and ballasted. Spring tides rise here 39 feet; neap, 33 feet.

PORT HAWKESBURY.

Port Hawkesbury, Inverness county, is an incorporated town, situated on the eastern side of the Strait of Canso, one mile north of Point Tupper, and is a station on the Inverness and Richmond railway.

The department, some years ago, acquired an old wharf property and repaired and extended the wharf out to a depth of 18 feet at low water. The public wharf is a regular calling place for the steamers of the Plant Line, plying semi-weekly between

Boston, U.S., and Charlottown, P.E.I., and as it was found that the available depth of water at the outer end of the wharf was not sufficient to accommodate some of the steamers calling at all times of tide, the departmental dredge *Cape Breton* was detailed to Hawkesbury to effect the necessary improvement.

The dredge commenced operations on June 17, 1912, and completed the work on July 16 following, and removed some 13,800 cubic yards, scow measure, of hard-pan, boulders and layer rock.

The work performed consists in dredging to 21 feet at low water, from the outer face of the wharf, and 200 feet north of it to improve the approach, and in dredging a turning basin on the northern face of the outer end of the wharf to 19 feet at low water, 200 feet in length and 200 feet wide at outer end and 50 feet wide at inner end.

PORT HOOD.

Port Hood, the shire town of Inverness county, is on the west coast of Cape Breton island, 20 miles north of the northern entrance to the Strait of Canso.

A pier on the east side of the harbour, commenced by the provincial Government in 1865, was originally 550 feet in length and 24 feet in width, with an 'L' on the south side of the outer end, 100 feet in length and 25 feet in width. It came under the charge of the Federal Government in 1871, since which time extensive repairs and renewals have been made, including the construction of a new block, 125 by 25 feet at the outer end, in 1873; the construction of a block, 50 by 32 feet at the south end of the 'L' in 1888-9, and the construction of a block, 71 by 24 feet at the outer end in 1889-90. The old provincial Government work was of square timber, close-faced; the additions and part reconstructed by the department are of round timber laid open-faced. The pier has been protected on the seaward side at the outer end and on the south end and inner side of the 'L' by close-piling, and both sides, to within 74 feet of the outer end, by a stone talus.

The work has been constructed entirely with native timber, and repairs and improvements have been made nearly every year since 1896-7, to the outer end, but owing to the bad condition of the work below the line of low water, nothing of a permanent nature can be done with the work until an extension, built with creosoted timber, is placed at its outer end.

During the year 1911-12, the sum of $1,336.83 was expended by day labour in cutting down to low water, a section of the northwest corner of the wharf, 40 by 20 feet, and in reconstructing and ballasting it and in close-piling its seaward face with native timber piling.

During 1912-13, the sum of $496.51 was expended in renewing the covering where necessary, in re-ballasting sections of the pier where the ballast had been washed out through the damaged face, and in strengthening this face with native timber piling.

PORT JOLI.

Port Joli is a small fishing village situated about fourteen miles southwest of Liverpool. Its people are dependent absolutely on fishing for a livelihood. In the fiscal year 1898-9, the department constructed a small cribwork wharf. About the year 1902, this work was extended.

During the past fiscal year, the amount of $551.33 was expended in repairs, but the work was not completed. When the covering, which required renewal, was taken off the wharf, the amount of decay in the crib logs was found to be greater than was anticipated, so that instead of 30 logs being required, about 75 logs had to be renewed. The floor stringers were all renewed, also the covering for about half its length, together with exterior stringers and guard rails. Work was commenced October 30, and completed December 4, 1912. Spring tides rise 7 feet; neap, 4½ feet.

PORT LORNE.

Port Lorne, Annapolis county, formerly called Port Williamse or Marshall's cove, is situated on the east side of the Bay of Fundy, forty-two miles northeast of Digby Gut and six miles north from Paradise station on the D. A. Ry. The settlement comprises about 300 people, engaged in fishing and farming.

The breakwater was begun in 1835 at the joint expense of the inhabitants and the provincial Government. The first work done by the department was in 1873-4. The history of the work since this date, with expenditure, will be found in the departmental reports for 1906-7 and 1911-12.

In 1912-13, the sum of $1,000 was expended in repairs and renewals to the floor of the west or main breakwater, including about 3,800 square feet of new flooring, with stringers, fenders and sheathing. The small eastern breakwater or groyne was also repaired by the renewal of a portion of the top, 30 feet long, 12 feet wide, and from 2 to 4 feet deep.

PORT MOUTON.

Port Mouton is situated about ten miles west of Liverpool. It is a fishing settlement of some eight or nine hundred people, and of considerable importance.

In the year 1900, the department constructed a wharf, which consisted of a stone bank approach, 112 feet in length, 4 blocks of cribwork each 28 feet in length, separated from each other by three spans, each 15 feet in length. It is 20 feet wide on top with the exception of the last 28 feet which is 40 feet wide. It has at its face about 7 feet of water at L.W.O.S.T. In the fiscal year 1911-12, the sum of $600 was appropriated for the purpose of repairing this wharf. Of that amount $250 was expended.

During the past fiscal year, the sum of $346.54 was expended in continuing these repairs. The work was commenced June 10, and finished on June 27, 1912. The repairs consisted of replacing a portion of the covering, a few stringers and several fenders. It has been satisfactorily performed. Spring tides rise 7 feet; neap, 4½ feet.

PORT WADE.

Port Wade, Annapolis county (in departmental reports, prior to 1911, called Victoria beach), is situated on the north side of the Annapolis basin, thirteen miles southwest of Granville ferry, which is directly opposite the town of Annapolis; it is four miles northeast from the town of Digby, and about one and one-half miles to the northeast of the entrance of Digby Gut. It is the southern terminus of the Middleton and Port Wade Railway, built some five years ago, fifty miles long, and now part of the Halifax and South Western system.

In 1904-5, a large pile-work pier was built by the department, by contract, at a total cost of about $95,000. A description of the work, with subsequent expenditures in petty repairs, will be found in the departmental report for 1911-12.

In 1912-13, the sum of $226.76 was expended in fastening the lower 70 feet in length of the inclined slip and the replacing of a number of stringers and planking broken by ice. A few planks in the deck of the pier were also renewed.

RIVER BOURGEOIS.

River Bourgeois, Richmond county, is a settlement on the southern coast of Cape Breton island, and on the northern side of Lennox passage, a strait separating Cape Breton island from Madame island.

The entrance into the harbour being very narrow and obstructed by a sand bar, with only 8½ at low water, it prevented vessels from entering or leaving the harbour at all times of tide, and in order to improve the entrance and to straighten and deepen the channel inside, on August 13, 1912, an Order in Council was passed granting

authority to accept the tender of the Coastal Dredging and Construction Company, Ltd., of Sydney, for the dredging required, and on October 10, a contract was entered into for the execution of the work.

The dredge *Cadeco* commenced operations on August 28, 1912, and continued until November 12, following, when the work under contract was completed.

The work consists of deepening the channel over the bar to 13 feet at low water in a width of 125 feet; in straightening, widening and deepening, to the same depth, the channel inside of the entrance; in overcasting a channel to Sampson's wharf, and in the removal of an old wrecked cribwork block which was dangerous to navigation, and the quantities removed and the rates paid for the different classes of work, are as follows:—

| | |
|---|---|
| 49,603 cubic yards, scow measurement, mud, clay, at 22 cents | $10,912 66 |
| 17,300 cubic yards, scow measurement, overcasting, at 14⅔ cents | 2,537 33 |
| 14·67 cubic yards, scow measurement, boulders at $8.50 | 124 70 |
| Removal of wreck, 31 hours at $23 | 713 00 |
| | $14,287 69 |

RIVER HEBERT.

River Hebert is a small lumbering and farming settlement situated at the mouth of the river Hebert, about 10 miles south-southwest of Amherst town. In the year 1898, the department constructed a pile wharf, for local use, at a cost of $1,200. About five years later, this wharf was extended a further distance of 50 feet up stream.

During the past fiscal year, the sum of $455.44 was expended upon this work. It was commenced in July, and completed on September 12, 1912. The roadway approach was practically rebuilt for a distance of 50 feet, the portion of this work was re-covered and about 20 fenders were replaced.

The older portion of this work consisted of a wharf constructed on pile trestle bents, separate 9 feet apart from centres. It was 81 feet wide along the front of the stream and 54 feet from the bank of the stream to the edge of the channel. The new structure consists of an extension of this 81 feet frontage, along the bed of the stream, a further distance of 50 feet, it having the same length up and down the bank of the stream, namely, 54 feet, as the older portion. Spring tides are 40 feet, and neap 33 feet; although there is not this total fall at river Hebert, owing to the fact that the river bed is reached about two hours before low tide.

ROUND HILL.

Round Hill, Annapolis county, on the south or left bank of the Annapolis river, eight miles east of the town of Annapolis. It is a station on the D. A. Ry. The population of the village is about 500, engaged in farming, fruit raising and general trade.

In 1905-6-7-8-9, the department expended the sum of $5,415 in the construction of a public wharf for the benefit of local trade. The work consists of a pile-work stem, 76 feet long, 25 feet wide and from 5 to 16 feet high, terminating in a substantial block of cribwork, 75 feet long, 35 feet wide and from 16 to 22 feet high, founded on piles driven to supposedly hard bottom, and cut off level with the mud.

In 1912-13, the sum of $39.33 was expended in bridging a gap of some 6 or 8 feet between the pile-work portion and the outer block, which had settled and separated itself from the rest of the work. The settlement of the outer block due to the insufficient driving of the piles upon which it was built.

SALMON RIVER.

Salmon river, Digby county, is a small stream which empties into the Bay of Fundy, seventeen miles north of Yarmouth, thirty miles south of Weymouth and three and one-half miles north of the boundary line between the counties of Digby and Yarmouth. The population of the place comprises about 500, engaged in farming, lumbering, fishing and general trade. The mouth of the stream is protected on either side by a breakwater, originally built before Confederation. Since 1874, numerous expenditures were made by the department in repairs, extensions and renewals, of which a full account will be found in the departmental report for 1907-8 an 1910-11.

In 1912-13, the sum of $798.48 was expended in extending inwards, or upstream, the north breakwater or groyne, by a block of substantial cribwork, 94 feet long, 11 feet wide and from 6 to 8 feet high.

SANDFORD.

Sandford, Yarmouth county, is situated on the coast of the mouth of the Bay of Fundy, at the extreme western point of Yarmouth county, seven miles northwest from the town of Yarmouth. The population of the place is from three to four hundred people, engaged in fishing and farming.

A breakwater was begun here in 1858 by the inhabitants, aided by the provincial Government. The first expenditure by the department was in 1876, since which date numerous expenditures have been made in repairs, extensions and improvements, of which a full account will be found in the departmental report for 1908-9.

In 1912-13, the sum of $393.93 was expended in extending the cribwork on the east side of the entrance to the tidal pond, forming a boat harbour; by a new block 30 feet long, 12 feet wide and from 4 to 6 feet high, and in deepening, by hand digging, the passage leading into the tidal pond, so as to facilitate the entrance of fishing boats.

SANDY COVE.

Sandy Cove, Digby county, is a fishing and farming settlement of some 400 people, situated on the Bay of Fundy side of Digby neck, twenty miles south of Digby town.

In 1904, the department built a breakwater for the protection of the fishing fleet, 211 feet long, 30 feet wide and 31 feet high at the outer end. The work was of substantial native cribwork, with the lower portion, up to a few feet below L.W.O.S.T., of creosoted timber. The cost of the work, by contract, was $13,829.48.

Spring tides rise 22 feet; neaps, 19 feet.

In 1912-13, the sum of $1,347.80 was expended; $792.29 in raising the outer 40 feet in length of the breakwater from 2½ to 3 feet, to make up for settlement due to scour; a number of dock planking, about 50 guard timbers and 10 fenders were also renewed; $551.51 was expended in building a concrete wall on the seaward side of the approach to the breakwater, to protect the roadway from heavy seas. The wall is 60 feet long, from 4 to 8 feet high and from 1½ to 5 feet in thickness. On the inner or landward side it is filled with large rocks and gravel to form the approach to the breakwater.

SCOTT'S BAY.

Scott's Bay, Kings county, is on the south of Minas channel, Bay of Fundy, between cape Split and Baxters harbour. The population of the settlement, within a couple of miles, is about 500. The works here, which consist of two breakwaters, one on either side of the mouth of a brook, were begun by the department in 1878, since which date numerous small expenditures have been made in repairs, renewals and extensions, of which a full account will be found in the departmental report for 1906-7.

In 1912-13, the sum of $2,500 was expended in extending the south breakwater, by a new block of substantial cribwork, 60 feet long, 30 feet wide and 24 feet high, built on 42 piles, driven to hard bottom and cut off about a foot below the level of the beach.

SEAL ISLAND.

Seal Island lies eighteen miles southwest of Clarks harbour, and is a fishing settlement of considerable importance. There are 26 houses, a church and a school, situated on this island. Each year there are from 125 to 150 fishermen fishing from here. During the period between December 1 and June 15, this number is at the full complement of 150, this being the lobster season, and Seal island being in the centre of the best lobster fishing grounds in the world. During the summer season, a large number of these men engage in cod fishing, netting herring, mackerel, etc.

On the western side of the island there is a long, low beach, on the southern point of which the fishermen, from time to time, have constructed temporary landings. On the north and east of these landings, they have built their skids on which they haul up their boats. At the head of the beach, they have a gasoline hoist which is utilized for that purpose. About 20 feet back of the old protection works is situated the life-saving station, with a crew of a captain and twenty-one men, all of whom are fishermen from this place. During the past few years, the old temporary work having been in the meanwhile destroyed, the beach was gradually being driven back so that in the course of two or three years it would have been practically untenable. It was therefore decided to construct a breakwater directly along the side of the old protection, and to begin at the top of the beach running seaward a distance of 180 feet to a point about 40 feet below L.W.O.S.T. With this in place, the boats can practically, at any time of tides, and almost all conditions of weather, run in beyond it and easily be hauled to a point of safety. The breakwater also prevents any further inroad upon the beach, which, if it was once destroyed, would render their fishing station practically valueless.

During the past fiscal year, the sum of $2,677.85 was expended upon this work, and good progress was made. Work was commenced September 25, and ceased on November 30, 1912; 110 feet in length was constructed, 70 feet yet to be built. The breakwater is constructed of continuous cribwork, 16 feet high on top, with a batter of 1 to 4 on the outside face, and a height of 16 feet at the outside end. The top of the work is 4 feet above H.W.O.S.T., whilst the bottom is embedded in the beach, so that a secure foundation has been assured. The outside face and end, when completed, will be sheathed with 7-inch sheathing. Spring tides rise 12 feet; neap, 8½ feet.

SHEET HARBOUR—EAST RIVER.

East river, Halifax county, is situated in the eastern part of the county on the Atlantic coast. The village which surrounds the harbour contains a population of 500, and is a thrifty and prosperous community, engaged in fishing and farming. The harbour is one of the finest in Nova Scotia, being of considerable extent and having an abundant depth of water. It runs inland about six and a half miles. Gerard's point, where it divides into two arms, receiving respectively the waters of the East and West rivers.

On June 9, 1889, a contract was entered into for the construction of a ballast wharf on the eastern side of East river, the completed work being 180 feet long, 20 feet wide, with an 'L' 20 by 20 feet at the southern end. In the year 1907-8, the sum of $1,199.88 was expended in building a commodious freight shed, 80 feet long, 30 feet wide, on the wharf, for the convenience of shippers. During the fiscal year 1911-12, the sum of $227.93 was expended in making repairs to the wharf and in painting the shed.

During the fiscal year 1912-13, the sum of $571.02 was expended in further repairs to the wharf and in repainting the shed. The south corner of the wharf, down to low water, was taken down and rebuilt, new planking, new caps and new fenders were put in and repairs made to the warehouse approach.

Work begun September 2, completed September 30.

SHEET HARBOUR PASSAGE.

Sheet Harbour Passage, Halifax county, is the name of a small island between Sober island and the mainland at the north of Sheet harbour, sixty miles east of the city of Halifax. The mainland adjoining the Passage has a population of about 150.

During the fiscal year 1911-12, the sum of $801.27 was expended in the construction of a block and span wharf for the accommodation of fishermen and to serve as a landing pier for freight, etc.

During the fiscal year 1912-13, the sum of $199.37 was expended completing the wharf begun in 1911-12. Work consists of the completion of the outer block of the wharf. The block was raised about two feet, ballasted and planked; fenders and guard timbers were also placed.

Work begun May 29, completed June 17, 1912.

SHELBURNE.

The town of Shelburne is situated at the mouth of the Shelburne river, at the head of Shelburne harbour, which is so well known that a detailed description seems to be unnecessary. In order to afford facilities for larger draught vessels to call, the department decided to construct a deep-water wharf. The site chosen for this wharf is at the extreme end of Water street, at what is known as Battery point, to which a railway siding from the main line of the Halifax and South Western railway has been graded and a track laid thereon. On October 12, 1910, a contract for a wharf was executed with Messrs. F. A. Ronnan & Co. and Daniel Stewart, all of Halifax, N.S., which contract was for the amount of $24,790. The work itself, however, was commenced by the contractors under special authority from Ottawa on September 26, 1910. At the close of the fiscal year 1911-12, there still remained about $750 worth of work to be done. This work was completed on the 27th of May, 1912.

The wharf is 966 feet in length, consisting of three parts.

First.—An approach in the usual rock bank form, 480 feet in length, 40 feet wide on top and about 9 or 10 feet high at its outside end, with both sides sloped to a batter of 1½ to 1.

Second.—Block and span work, 90 feet in length. This portion consists of three cribs, each 20 feet in length, separated from each other by two spans, each 15 feet in length. These cribs are 40 feet wide and are filled with ballast to the underside of the floor stringers. Objection was taken by the railway to the effect that the spans were too long, and trestles consisting of mud sills were placed under the centre of each of them.

Third.—A portion supported by pile trestle bents. This portion is 396 feet in length, the first 296 feet being 40 feet in width on top, the outside 100 feet being 70 feet in width, the 'L' on the outside end being 100 feet in length by 30 feet, and placed on the eastern side of the wharf. These pile trestle bents are separated from each other longitudinally 9 feet, measured from centre to centre of pile head. The height of the work at the outside end is 36 feet, which corresponds to a height of 4 feet above H.W.O.S.T. Spring tides rise 6½ feet; neap, 4 feet.

SKINNER'S COVE.

Skinner's cove is on the western side of Northumberland Strait, about eight miles east of Cape John and about twenty miles northwest of Pictou harbour. A pond at the head of the cove is separated from the waters of the Strait by a sand beach, 250 feet in width.

The works at this place, for the protection of a channel through the beach, undertaken in 1905-6, and continued in 1906-7, 1907-8, and 1908-9, include: A pier, on each side of a channel dredged to 2½ feet at extreme low water, of brush, stone and piles, 344 feet in length and 15 feet in width with a cribwork head, 40 feet in length by 20 feet in width, with creosoted substructure, and an extension inward, 156 feet in length on the west side and 68 feet in length on the east side, of brush and stone 14 feet in width, on top, and 8 feet in height, founded in a trench excavated to 3 feet above the level of extreme low water.

In 1909-10, the sum of $2,822.10 was expended in re-opening the channel and in nearly completing its extension inwards about 400 feet to the pond.

In 1910-11, the sum of $241.28 was expended in renewing the sheathing and brush filling of 25 feet of the inner end of the pile and brush protection work on the western side of channel.

In 1911-12, the sum of $331 was expended in deepening part of the channel by hand dredging.

In 1912-13, the sum of $398.40 was expended in replacing about 3,600 feet b.m. of hardwood sheathing and about 500 cubic yards of brush and stone in the pile protection works on each side of the channel.

Work was in progress September 10 to 30 and October 1 to 31.

SMILEY'S POINT.

Smileys Point (Port Dufferin), Halifax county, is a village of 500 or 600, engaged in fishing, canning and gold mining, situated at the mouth of Salmon river which empties into an inlet known as Beaver harbour, about eighty-five miles east of Halifax by high-road and about half way between Halifax and Canso.

During the fiscal year 1908-9, the department expended the sum of $452.12 in the purchase of timber for the construction of a breakwater about half a mile below the public wharf, known as Port Dufferin wharf. In the fiscal year 1910-11, the sum of $2,551.24 was expended in the construction of a breakwater 170 feet long, the shoreward 120 feet being 15 feet wide and the outer 50 feet being 20 feet wide, the height of the work varying from 5 feet at the shore end to 19 feet at the outer end, where, at L.W.O.S.T., there is a depth of 10 feet of water. During the fiscal year 1911-12, the sum of $1,226.33 was expended in the purchase of timber in readiness for work under the 1912-13 appropriation.

During the fiscal year 1912-13, the sum of $2,199.29 was expended in the construction of a block of solid cribwork in completion of the work already built. This block is 60 feet in length and 25 feet in width, with a break 3 feet high on the seaward side.

Work begun September 4, completed November 30, 1913.

SOBER ISLAND.

Sober island, Halifax county, situated at the mouth of Sheet harbour, sixty miles east of the city of Halifax, is a small island three miles in length and three quarters of a mile in width, separated from the mainland by a narrow channel known as Sheet Harbour passage. The population consists of about 50 families, engaged almost wholly in the fishing industry.

In the year 1902-3, the sum of $797.18 was expended in the construction of a small wharf. In the fiscal year 1911-12, the sum of $71.20 was expended in the purchase of timber for the construction of an 'L' to the outer end of the wharf.

In the fiscal year 1912-13, the sum of $914.59 was expended in the construction of two small 'Ls' to the wharf, one being 25 feet by 30 feet with a height of 18 feet, and the other measuring 10 feet by 20 feet with a height of 18 feet. A freight shed was also built measuring 18 feet by 15 feet.

Work was begun July 1, completed August 9, 1912.

SOUTH COVE.

South Cove, Victoria county, is a district on the southern shore of St. Patrick's channel, an arm of the Bras d'Or lakes, about six miles to the eastward of Little narrows.

During 1910-11, a plan and specification for the construction of a block and span wharf, to be built by day labour, were prepared, and the sum of $4,681.94 was expended in procuring nearly all the materials required in its construction.

The sum of $3,000 was voted for expenditure during 1911-12, in the construction of the wharf for which the materials were obtained during the previous year, and of the amount voted, the sum of $1,791.97 was expended in completing the wharf, with the exception of some ballasting, the placing of the cap timbers and a portion of the upper fenders.

During 1912-13, the sum of $313.31 was expended in completing the wharf commenced during 1911-12, the work done consisting of ballasting, laying of balance of covering and the placing of cap timbers and of the balance of upper fenders.

The wharf is 195 feet long and 20 feet wide, with an 'L' 20 by 20 feet on the eastern side of the outer end, and extends to 11½ feet at low water. It consists of blocks and spans; the blocks are built of round timber with creosoted timber substructure, and the outer faces of the two outer blocks will be close-sheathed.

SOUTH LAKE, LAKEVALE.

South lake, Lakevale, Antigonish county, is situated on the western shore of St. George's Bay, about midway between the entrance to Antigonish harbour and Cape George.

It is a large sheet of fresh water separated from the bay by a beach of sand and gravel, about 900 feet in length, 300 feet in width and about 8 feet above the level of low water springs.

In 1907-8-9, the sum of $12,554.26 was expended in cutting a channel through the beach, 40 feet wide at the bottom and to 2 feet below high water, and in the construction of a breakwater, 300 feet long and 20 feet wide, and consisting of ordinary cribwork, to protect the north side of its seaward entrance, and during 1909-10, the sum of $1,199.98 was expended in completing the channel through the beach, to a depth of 1½ feet below low water springs.

In 1910-11, the sum of $699.99 was expended in the construction of a brush and stone dam, 75 feet long and 12 feet wide on top, at the inner end of the breakwater, to close a breach made there, and in the removal of some 150 cubic yards of sand out of the channel.

In 1911-12, the sum of $1,707.88 was expended in procuring timber and ballast required for the construction of a proposed extension, 40 by 20 feet in line of work, of round timber cribwork with creosoted timber substructure, fully ballasted and sheathed on all faces with creosoted and hardwood sheathing.

Depth at outer end at L.W.S., 12 feet. Spring tides rise 4½ feet.

In 1912-13, the sum of $99.35 was expended in removing and piling, in a place of safety, materials procured during 1910-11, for the construction of the proposed extension.

Work was in progress November 14 to 25, 1912.

STERLING BROOK.

Sterling brook, Hants county, is situated on the north shore about three miles west of Maitland and about five miles east of Selma, where there is also a public wharf. The population is about 300, and the shipments of lumber amount to about one million feet annually. Small shipments of farm produce and hay are also made from this place.

In the fiscal year 1912-13, the sum of $1,419.32 was expended in the partial construction of a wharf at Sterling brook. An approach of cribwork, 40 feet long and 20 feet wide, was constructed. Piles were also driven and cover put in place. A small point was removed to improve the river channel.

Work begun October 3, discontinued December 31, 1912.

ST. JOSEPH'S.

St. Joseph's, Inverness county, is a fishing and farming district on the western coast of Cape Breton island, about midway between the harbours of Margaree and Cheticamp, and about one and a half miles to the northwestward of the excellent boat harbour of Grand Etang.

During 1910-11, the sum of $600 was expended for the property required for a road, to connect a proposed breakwater for the protection of the boat landing beach with the public road, and the sum of $200.09 was expended in partially constructing the road.

On January 13, 1912, a contract was entered into for the construction of a breakwater in the sum of $10,275. Work of construction was commenced on July 15, and was brought to a satisfactory completion on October 14, following.

The work done by contract is 290 feet in length and 20 feet in width on top, with sides and outer end battering 1 in 12, and consists of a continuous round timber cribwork structure, creosoted to half tide, fully ballasted and fendered and protected on the seaward faces with close-sheathing.

Besides constructing the breakwater, during 1912-13 the sum of $550 was expended by day labour in completing the construction of the road leading from the public road to the breakwater, commenced during 1910-11.

ST. MARY'S RIVER.

St. Mary's river is a fine stream, sixty-five miles in length, traversing valuable timber lands and discharging into the Atlantic ocean, forty-eight miles to the westward of Cape Canso. The depth at extreme low water in a channel, dredged in 1900-1, to about 14 feet through a bar at the entrance, is now about 12 feet; and thence, in a narrow and tortuous channel, to within half a mile of the village of Sherbrooke, at the head of tide, eight miles inland, from 18 to 9 feet. Spring tides rise 6 feet.

In 1908-09, improvements of the channel by the removal of a point of reef just within the entrance, and of some boulders near the head of navigation, undertaken in 1907-8, were completed, with the exception of the removal of some rocks (broken up boulders) in the channel near the Scotia Milling Company's wharf. During this and the following year, the dredge *George McKenzie* was engaged in dredging a 10-foot low-water channel 100 feet in width and 188 feet in length, through a bar of gravel and boulders between Goldenville wharf and Sherbrooke.

In 1910-11, the sum of $198.01 was expended in breaking up boulders left near Anderson's wharf at Sherbrooke on suspension of dredging operations in 1909-10, and in removing boulders near the Scotia Lumber Company's wharf below Goldenville.

In 1912-13, the sum of $500 was expended in removing about 30 boulders in the channel between Sherbrook and Goldenville by means of a diver and plant.

Work was in progress November 18 to 30 and December 2 to 5, 1912.

*Dredging.*

Dredging was undertaken at St. Mary's river with the object of improving accommodation for large steamers by widening the channel and deepening it to 13 feet at L.W.S.

During the season of 1912, the dredge *George McKenzie* worked from September 7 to November 23 over an area of 201,600 superficial feet. The scow measurement showed the quantity of material removed to be 16,025 cubic yards.

SPENCERS ISLAND.

Spencers Island is a scattering, lumbering, farming and fishing settlement of about 400 people, situated on Greville bay, about twenty-three miles west-by-south of the town of Parrsboro. During the past fiscal year, the sum of $1,600.73 was expended in effecting repairs to this breakwater. Work was commenced on May 23, and ceased on November 12, 1912.

This breakwater is of cribwork, 225 feet in length built in 10-foot panels of continuous cribwork. It is 20 feet wide on top and has a height at its outer end of 26 feet.

During the past fiscal year, the entire work was re-topped. The outside end had received considerable damage from the bumping of steamers and other vessels calling, and was pretty well shaken up, so that a portion of it about 8 feet in height running back 30 feet in length, had to be rebuilt. On the outside end, or seaward face, of this new work were placed 32 hardwood fenders. The re-topping consisted of planking the work for its entire length with 3-inch plank, renewing floor stringers, exterior stringers and guard rails. Besides this, a large amount of ballast was required, as there were places which for 15 feet in depth had no ballast whatever, it having been spilled out through the work being in bad repair. Spring tides rise 40 feet; neap, 33 feet.

STONY ISLAND.

Stony Island is one of the most important fishing stations on the southwest shore of Nova Scotia. It is situated on the eastern side of Cape Sable island, about three and one-half miles southeast of North East point, or five miles northeast of Clarks harbour.

In the year 1890-1, this department constructed a breakwater with a view of establishing secure anchorage for boats. At present, these people have 16 boats, from 10 to 12 tons capacity, each carrying crews of 4 men; 6 boats carrying from 2 to 3 men, and 30 small boats carrying one man each. In the village, on the mainland opposite the island, where the people live, who do their fishing from this station, there are three stores, one church, one hall and a two-room school house. The population in this locality is about 500.

The breakwater did not fulfil the purpose of protection for which it was designed, as the undertow coming in through the gap caused the boats to keep close to the western shore, where they were exposed to the full force of the sea and wind, resulting in the destruction and damage to many of them. To construct a breakwater at a proper place would cost entirely too much to justify this expenditure, when the volume of business to be served was considered. The undertow coming over the gravel bar would also destroy the efficiency of a breakwater, even if it were constructed at a different location. It was therefore considered necessary to build, upon the gravel bar, a beach protection so as to shut out the undertow, and it was also recommended that the present breakwater be repaired, so that it could be utilized as a wharf. This

beach protection is constructed of continuous rock-filled cribwork, and when completed will be 831 feet in length, 8 feet wide on top, and have an extreme height in the centre of about 13 feet, with a batter of 1 to 4 on the outside, the inside being plumb.

The repairs required to the breakwater was the practical rebuilding of the first 126 feet with a height of 4 feet, and the rebuilding of the outside for a height of 8 feet, and the re-covering of the 34 feet of span. This work is also of cribwork, but of a heavier character than the proposed beach protection. During the fiscal year 1911-12, the sum of $4,073.23 was expended in the construction of this work. About 400 feet in length of the beach protection was constructed and fully ballasted.

During the past fiscal year, the sum of $2,073.49 was expended. The work was commenced on September 23, and ceased December 12, 1912. There still remains about 231 feet of beach protection requiring construction. Material for about half of this is on hand, and the sum of $1,500 will be required in order to complete the work. Spring tides rise 8 feet; neap, 5 feet.

### SYDNEY MINES.

The town of Sydney Mines, Cape Breton county, is on the western side of the entrance to Sydney harbour, about 2 and a half miles to the northward of the town of North Sydney. It contains a population of about 7,000, and is the headquarters of the Nova Scotia Steel and Coal Company's operations.

On November 28, 1910, a contract was entered into for the construction of a wharf at Barrington's cove, in the sum of $29,900.

The work of construction was commenced in the early part of June, 1911, and good progress was made up to September 30 following, when the work was visited by an exceptionally severe northeasterly gale. At that time, the creosoted timber substructure of all blocks was in place and built up to the required height of 18 inches above low water, and fully ballasted. During the progress of the gale, the sandy bottom on which the blocks rested, was scoured from under them, causing them to settle from 6 inches to 4 feet, and as an additional amount of creosoted timber was required to raise them to the proper level, and which could not be obtained at that season of the year, the work of construction was suspended during the month of October.

The work of construction was resumed on May 13, 1912, and was satisfactorily completed and accepted on October 18, but owing to settlement of the foundation, which had taken place on September 30, 1911, additional work, amounting to $5,501.65, had to be done to complete the work to the specified height.

The work is 894 feet in length, extending to 12 feet at low water, with an 'L' on the western side of its outer end, 100 feet in length. It is 20 feet wide for a distance of 604 feet from its inner end, and 24 feet wide for the remaining distance and for the L. The inner end, for a distance of 60 feet, consists of a road cutting; thence for a distance of 694 feet it is made up of blocks and spans; thence for a distance of 140 feet or to its outer end, and including the L, it consists of a continuous cribwork structure. The blocks and the continuous cribwork structure are constructed of round timber, creosoted to half tide, and the western end of the L, the outer face and the eastern face, for a distance of 280 feet from the outer end, are close-sheathed.

### TATAMAGOUCHE.

Tatamagouche, Colchester county, is an important town on Northumberland Strait, thirty miles from Truro. It is also an important station on the Intercolonial short line running from Oxford Junction to Pictou. During the fiscal year 1905-6, the department expended the sum of $1,116.19 in beginning the construction of a cribwork wharf. In 1906-7, the department expended the sum of $810.27 in completing the work. It consists of a cribwork wharf built over and around an ancient structure.

The new work is 100 feet long, 62 feet wide and at the outer end, 14 feet high, with a depth of water of 12 feet.

In the fiscal year 1912-13, the sum of $886.15 was expended in the reconstruction of block and span work, 146 feet long, 20 feet wide, with a 10-foot 'L.' Repairs were also made to the approach.

Work was begun 13, completed September 28.

### TENNYCAPE.

Tennycape, Hants county, is a scattered farming district situated about half way between Walton and Noel, or about six miles from each. The population of the place, within a radius of a couple of miles, is about 200. A small lumbering industry ships about 300,000 feet of lumber annually. A small amount of fishing is also done. The nearest railway station is about thirteen miles, and most of the local trade is carried by water. The department, on May 7, 1904, awarded a contract in the sum of $8,370 for the construction of a suitable breakwater and wharf to serve as a landing shelter. In the year 1911-12, the sum of $5,475 was expended in the construction of an addition to the breakwater. The addition consists of an 'L,' 80 feet in length, 40 feet in width and 24 feet in height. The work was done by contract.

In the fiscal year 1912-13, the sum of $500 was expended in replanking the old portion of the work and in removing a sand bar in order to make a safe approach to the wharf.

Work begun July 1; completed July 15.

### THE WHARFS.

The Wharfs, Lunenburg county, is situated at Cherry Hill, and is a small fishing harbour, situated in an exposed position on the Atlantic coast, about five and a half miles west of Petite Rivière.

During the fiscal year 1910-11, the sum of $632.98 was expended in the purchase of timber for the construction of work to be carried on under the 1912-13 appropriation.

During the fiscal year 1912-13, the sum of $1,959.03 was expended in the partial construction of a breakwater. The work done has a length of 20 feet, by 20 feet in width, and an average height of 6 feet. Timber was also purchased in readiness for a continuation of this work under the 1913-14 appropriation.

Work was begun October 1; suspended November 26.

### THREE FATHOM HARBOUR.

Three Fathom harbour, Halifax county, is an irregular-shaped inlet of the sea about one mile in maximum length from north to south, by a quarter to three-quarters of a mile wide, situated about fifteen miles to the east of Halifax harbour. The harbour is much frequented and used by fishermen from the contiguous settlements of Seaforth, East and West Chezzetcook, containing, in the aggregate, a population of some 500 to 600.

To prevent the sea from breaking through the narrow shingle beach which separates the harbour from the Atlantic, the department, in 1878, constructed a beach protection of cribwork along the crown of the beach. Its original length of 1,050 feet has been extended to 1,085 feet; its height is from 4 to 8 feet, and its width 13 feet. Between the years 1901-10, several expenditures were made by the department in renewals and repairs. During the fiscal year 1911-12, the department expended, by contract, the sum of $6,355.77 in the partial completion of an additional breakwater, connecting the outermost portion of the beach with the small island on which the

original breakwater ended. The work, when completed, will be 800 feet in length, 16 feet in width and from 4 to 9 feet high. An expenditure of $1,252 was also made in repairs to the old portion of the work and in the purchase of timber for further repairs to be carried on during 1912-13.

In the fiscal year 1912-13, the work was continued by the expenditure of the sum of $1,655.99, in the construction of a breakwater groyne, 140 feet long, 18 feet wide and 8 feet high, and the taking down and rebuilding of a portion of the old breakwater, 80 feet long, 15 in width and 2 feet in height, and in the construction of a small block, at the northern end of the breakwater, 44 feet in length, 12 feet in width and 8 feet in height, and filling in behind the breakwater, for a distance of 50 feet, with brush and stone.

Work was begun June 1; completed October 17, 1913.

### TITTLE PASSAGE.

Tittle passage is a narrow boat channel, one and a half miles in length, separating Durell island, at the western entrance of Canso harbour, from the mainland.

During 1900-1, dredging was performed at the eastern entrance of the passage to a depth of 7 feet at L.W.S. across a bar about 450 feet in length. Spring tides rise 6 feet.

After dredging operations were suspended, in 1900-1, it was found that a great number of large boulders had been left on the bottom and that a shovel bank had been thrown up in front of several wharfs.

Upon examination, in May, 1911, it was found that the channel was in a very bad condition, and the sum of $1,500 was voted for the removal of obstructions.

In 1912-13, the sum of $1,500 was expended in removing about 430 boulders, with a diver and plant.

Work was in progress July 30 to 31, August 1 to 31, September 1 to 30, and October 1 to 3.

### TIVERTON.

Tiverton, Digby county, is a village of some 400, engaged in fishing and farming, situated on the west side of Petit passage, seperating the mainland of Digby neck from Long island. It is about thirty miles southwest of Digby town, and ten miles southwest from Sandy cove.

In 1903-4, the sum of $17,000 was expended by the department in the construction, by contract, of a breakwater for the protection of the fishing fleet. The work is 281 feet long, 30 feet wide and at the outer end, 33 feet high. The work is of substantial cribwork, with the lower portion, up to 5 feet above L.W.O.S.T., of creosoted timber so as to resist the attacks of the *limnoria*. Small expenditures were made in 1905-6 and 1909-10.

In 1912-13, the sum of $496.75 was expended in miscellaneous repairs to the breakwater, comprising a few new fenders, repairs to the decking, and the fitting up of a waiting-room in the freight shed. A small quantity of ledge rock was blasted and removed from the berth alongside the breakwater.

Spring tides rise 21 feet.

### TONEY RIVER.

Toney river, Pictou county, is a small stream emptying into the Northumberland Strait about midway between Pictou harbour and Amet sound.

During the years 1905-6, 1906-7, 1907-8, and 1908-9, the sum of $9,381.73 was expended in opening a new channel through a beach obstructing the entrance to the river, and in constructing protection works. The protection works, constructed on the east and west side, were, respectively, 296 and 236 feet in length and 14 feet in width,

except the outer 122 feet on each side, which are 20 feet in width. The protection works are 36 feet apart and are each 10 feet in height, from 1½ feet below to 8½ feet above low water.

In 1910-11, the sum of $1,943.85 was expended in the construction of 50-foot extensions, outwards, of the protection works on both sides.

In 1911-12, the sum of $591.42 was expended in procuring all the ballast poles and part of the ballast, round timber, &c., required in the construction of 50-foot extensions to both piers.

The depth at extreme low water in the channel, between the piers, is about 1½ feet. Spring tides rise 6 feet.

In 1912-13, the sum of $1,590.16 was expended in extending the protection works on each side of the channel, for which materials were procured during 1910-11, a further distance of 50 feet. The depth at the outer end of the present protection works is 1½ feet.

Work was in progress June 20 to 28, July 2 to 31, August 15 to 24, October 17 to 26.

TROUT COVE.

Trout Cove, Digby county, is on the Bay of Fundy coast of Digby neck, midway between Digby Gut and Petite passage, or about eighteen miles from each. The settlement at and near the cove, which is called Centreville, has a population of about 400, engaged in fishing and farming. A factory for the canning of finnan haddies, kippered herring, &c., does a considerable business.

A breakwater was begun in 1856 by the inhabitants, aided by the provincial Government. It was extended in 1876 by the department, and, since that date, numerous expenditures have been made in repairs, renewals and extensions, of which a full account will be found in the departmental report for 1911-12.

Spring tides rise 23 feet.

In 1912-13, the sum of $7,910.17 was expended in rebuilding a gap in the old breakwater, which was made by a severe storm in the winter of 1909-10, the rebuilt portion being 190 feet long, 21 feet wide and from 12 to 18 feet high, of native timber cribwork.

For the purpose of constructing an entirely new breakwater, the department, in April, 1912, awarded a contract to Messrs. MacKay Bros., of Sydney, N.S., representing the Norfolk Creosoting Company, of Norfolk, Va., for the supply of 520,000 feet b.m. of 10 by 12 inch creosoted pine, at the contract price of $54.75 per thousand, delivered. The first cargo, comprising 460,000 feet b.m. arrived at Trout Cove on the 17th of August, 1912. The second cargo of 60,000 feet b.m. is expected to arrive in April.

Early in August, a contract was awarded to Mr. E. R. Reid for the construction of the new breakwater, for the sum of $14,500, the department furnishing the creosoted timber. The work was begun about August 8, 1912, construction being closed down for the season at the end of November. Since that date, the contractor has delivered on the site of the work a considerable quantity of timber and ballast, and at the end of the fiscal year (March 31, 1913) the total value of work done and materials delivered by the contractor is $8,450.

VICTORIA.

Victoria, Kings county, is situated on the south shore of the Bay of Fundy, fifty-two miles northwest of Digby Gut and half way between Morden and Ogilvies, from which it is distant about four miles. The breakwater, which also serves as a landing pier, was built by the inhabitants, aided by the provincial Government, in the years 1864-7. It is 243 feet long, 27½ feet wide and 24 feet high at the outer end, of substantial cribwork.

Between 1878 and 1912, numerous expenditures were made by the department in repairs and renewals, of which a full account will be found in the departmental reports for the years 1904-5 and 1911-12.

In 1912-13, the sum of $3,553.52 was expended in rebuilding the outer 72 feet in length of the work, which, very old and dilapidated, was totally destroyed in the winters of 1909-10-11. The new block is 26 feet wide and from 15 to 19 feet high. A new block 105 feet long, 10 feet wide and from 8 to 12 feet high was rebuilt on the shore end of the eastern side of the breakwater. General repairs were also made to the floor.

Spring tides rise about 30 feet.

### WALLACE.

Wallace is a scattering settlemen or village situated on Wallace bay, which runs inland a distance of eleven miles from Malagash point. The people, who number about 1,000, are engaged in farming, fishing and quarrying.

The village of Wallace is situated on the south side of Wallace bay, whilst on the north side of this bay, the settlements of North Wallace and Fox Harbour are located. Prior to Confederation, the Nova Scotia Government constructed a small wharf at the north side of this harbour for loading purposes, which wharf has been repaired several times since by this department.

In the year 1897, the department constructed another wharf on the south side of the harbour. A steam ferry was established between these two wharfs, and a channel was dredged out, so that traffic between the two sides of the harbour could be conducted at all times of tide. In the year 1905, dredging was done, having in view the extension of both of these wharfs to the main harbour channel.

The wharf on the northern side was extended for a distance of 1,440 feet, 1,420 feet of which consisted of pile trestle bents, situated 10 feet apart, with a common width of 16 feet on top. The last 20 feet is 40 feet wide on top, and is constructed of round log stone-filled cribwork.

The south wharf was extended a distance of 223 feet, being 20 wide on top, and has a height of 14 feet at the outer end. This extension is constructed of continuous round log, stone-filled cribwork, strongly fastened and fendered. Solid cribwork was used in this extension because it was located in the position of the old dredging, which cut had completely filled up with the soft mud or silt. The material would not support the whole work, and indeed so soft did it prove, that the cribwork settled in it from 4 to 6 feet in depth. During the past fiscal year, the sum of $2,917.49 was expended in connection with these repairs. The work was commenced on June 7, and ceased on September 16, 1912.

The wharf on the north side was re-covered for 1,500 feet of its length. A number of stringers were replaced, and 130 piles renewed. The wharf on the south side consisted of two portions, the first part built in the year 1897, and the second part in the years 1904-5 and 1906, as explained in a former portion of this report. It was the former portion of this work to which repairs were made. All the stringers, floor and exterior guard rails and planks were renewed. A number of the fenders were replaced and a railing along the outside end of the wharf was renewed. The various slips on both of these wharfs were practically renewed. Most of the damage caused to these wharfs was the result of the work of the *Teredo navalis*. Spring tides rise 6 feet; neap, 4½ feet.

### WATT SETTLEMENT.

Watt Settlement, Halifax county, is situated on the east side of Sheet harbour, three miles below the village of Sheet Harbour. The population of the district is about twenty families. To accommodate the people of this district and to afford a

landing place during the winter months, when the upper portion of the harbour is frozen over, for the people of Sheet Harbour (a village of some 800 or 900) the department began the construction of a pile and timber wharf. In 1911-12, the sum of $2,203.03 was expended in the purchase of material ready for the construction of the wharf under the 1912-13 appropriation.

In the fiscal year of 1912-13, the sum of $3,214.81 was expended in the construction of a pile-work wharf, 260 feet in length, 25 feet in width and from 6 to 24 feet in height. It has a cribwork block on the outer end of 30 feet by 40 feet, and an approach 50 feet long by 25 feet wide, faced with cribwork. A road was also built from the wharf approach to the public highway.

Work was begun May 14, completed December 31, 1912.

WEST ADVOCATE.

West Advocate is situated about two miles west of Advocate harbour, near Cape Chignecto. For several years, the department had been considering the advisability of constructing a breakwater where vessels might call and land passengers, freight, &c., particularly as no railway communications are, or probably will be, afforded this portion of Cumberland county. By the construction of this breakwater, the interests of about 3,000 people would be served, as it is within about six hours' sailing distance of St. John, N.B. The contract for this work was let to Messrs. J. E. and H. Bigelow, of Canning, on February 2, 1912. The amount of the contract was $16,400. The work was commenced on May 28 and the breakwater was completed on November 28, 1912.

It consists of a stone bank approach, 51 feet in length, 24 feet in width on top, and a solid continuous cribwork blocking 271 feet in length, with 10-foot panels, with a height at the outside end of 44 feet. The outside face of the end, together with the inside face of the 'L' and the inside face of the breakwater, for a distance of 100 feet, was sheathed with 7-inch sheathing. The cribwork is 20 feet wide, with the exception of the last 30 feet, which is constructed in the shape of an 'L' and has a width of 40 feet at the outside end. It is covered on top with 4-inch timber, has a batter on the seaward face of one in six and on the inner face of one in twelve. Spring tides rise here 40 feet; neap, 32 feet.

WEST ARICHAT.

West Arichat, Richmond county, is a small but safe harbour on the west coast of Isle Madame, sheltered from the south and west by Creighton island and by a breakwater between it and Isle Madame.

The breakwater was built by the department about 38 years ago for the protection of the harbour, and is 1,200 feet in length and 24 feet in width, and consists of native round timber cribwork, fully ballasted and planked over, and the top is about 11 feet above the bottom, which is dry during low water springs. It connects the mainland with Creighton island and is used as a roadway between them.

During the years from 1904 to 1908, sums aggregating $1,840.97 were expended in urgent repairs and renewals, principally to the covering and floor stringers.

During 1911-12, the sum of $664.04 was expended in procuring a portion of the materials for repairs required to place the breakwater in good condition, and during the year 1912-13, the sum of $2,138.93 was expended in procuring the balance of the materials required and in the partial reconstruction of the top of the work, consisting of the renewal of floor stringers, covering and cap timbers.

WEST CHEZZETCOOK.

West Chezzetcook, Halifax county, is situated on the western side of Chezzetcook inlet, which lies sixteen miles east of Halifax. The inlet is from a half to three-

quarters of a mile wide at its mouth and extends five miles inland, and receives the waters of several small lakes at its head. The population of the village is about 700 to 1,000, located in a scattering manner along the western shores of the inlet. The inlet itself, which has an average width of one mile, is shallow, with a bottom of mud and sand so that, at low water, extensive flats are laid bare. There is, however, a narrow, tortuous channel running to the extreme head of the inlet, with a depth of from 6 to 8 feet at L.W.O.S.T., which is used by numerous fishing schooners and other small craft, such as three and four-hand fishing boats and skiffs. Owing to the gradual filling up of the entrance to the channel with accumulations of sand, a breakwater, or mole, was constructed by this department in 1892, at a cost, by contract, of $11,160.97. The work was designed to create a scour to deepen and improve navigation at the entrance to the channel; it is built in a westerly direction from the southern end of Conrods island, which forms the western side of the western channel entering the inlet. At this point, the channel from high water to high water was 1,500 feet wide, therefore, from the end of the breakwater to high water is now only 600 feet. This contraction of the channel had the effect of forming a strong current at ebb and flow and the fine sand along the face of the work was scouring to such an extent as to cause the whole length of the L to settle from 4 to 6 feet, and the stem of the work, or the seaward 900 feet, from 2 to 4 feet. This scouring necessitated the placing of a substantial toe of brush and stone along both sides of the work. The breakwater has a total length of 1,100 feet, of which 900 feet is at right angles to the channel, and the remaining 200 feet or 'L' parallel to it. At the southern end of the 'L' is a square block 30 by 30 feet, which is close-sheathed by vertical sheathing, 5 inches thick. The rest of the work was ordinary open cribwork, stone-filled, with sides battering one in five, and a top width of 15 feet. Between the years 1895-1910, numerous small expenditures were made in repairs. In the year 1911, the department expended the sum of $836.15 in making repairs to the outer portion of the work. The sum of $980.75 was also expended in constructing an earth and stone approach to the public wharf on the mainland, on the western side of the harbour, and in the purchase of timber for the completion of the work during the year 1912-13.

In the fiscal year 1912-13, the department expended the sum of $600.51, in completing repairs to the breakwater, and the sum of $1,119 in the completion of the wharf begun in the last fiscal year.

The repairs to the breakwater consist of raising a portion of the outer end of the work about two feet in height, replacing fenders, floor stringers and planking, and in making other general repairs.

Work begun May 21, completed November 25, 1913.

The wharf constructed has a length of 110 feet, a width of 25 feet, and height of from 8 to 20 feet, with an 'L' measuring 25 feet by 30 feet, with a height of 20 feet. The approach to the wharf is 100 feet long by 25 feet in width.

Work began May 1, ended November 30.

### WESTERN HEAD.

Western Head is a fishing settlement five miles west of Liverpool. It has a population of about 250, but about 150 others fish from this place, and it is considered an extremely important fishing station in Queens county. At various times, sums of money ranging from $2,500 to $5,000 were expended in the construction of a stone and concrete breakwater. During the past fiscal year, the sum of $1,492.01 was expended in effecting necessary repairs to this work. The repairs were commenced on May 1, and completed on November 12, 1912. Although during the last few months, from August to the 20th of October, no work whatever was done; the work from October 20 to November 12 consisted of merely the finishing touches. This work was most satisfactorily performed. Two different portions of the top, each about 30 feet in

length and 15 feet in width for a depth of about 5 feet, were renewed. The outside end of it for 12 feet, with a length of 9 feet and a depth of 6 feet, was also renewed. Besides this work, there was a general patching up of the entire top of the structure and about 160 bags of cement were utilized in filling up holes in loose places on the sides of the breakwater, which had been created by the action of the sea.

A number of the iron dogs connecting the face stones had rusted away and had to be replaced. All these renewals were made with concrete, no large stones being utilized, as past experiences have proved the procuring of displacers in this work to be more expensive than the use of solid concrete. The work has been satisfactory in every shape. Spring tides rise 7 feet; neap, 4½ feet.

### WESTERN SHORE.

Western Shore, Lunenburg county, is situated on Mahone bay nine miles southeast of Mahone, three miles east of Martins river, and one mile west of Gold river. It is a station on the Halifax and South Western railway. It has a scattered population of about 200, engaged chiefly in farming and lumbering. Many of the men are employed during the summer months in the bank fisheries.

In the fiscal year 1912-13, the sum of $808.69 was expended in the construction of an approach for the wharf which it is proposed to construct at this place. The approach is 67 feet in length, 20 feet in width and 9 feet in height at outer end. Also $1,982.25 was expended for timber in readiness for work in 1913-14.

Work was begun November 16; suspended October 31, 1912.

### WESTPORT.

Westport, Digby county, is a thriving village of about 700, engaged in fishing and farming, situated on the northwest end of Briar island, on the southeast of Grand passage, forty miles southwest of Digby Gut. The annual value of the fishing catch is between three and four hundred thousand dollars. Westport is a port of call for a subsidized steamer plying between St. John, Yarmouth and other ports in the Bay of Fundy.

The sum of $16,770 was expended in 1911-12 by the department in building, by contract, a wharf or pier of pile-work. The structure is 396 feet long, with an 'L' at the outer end, giving a face length of 75 feet and a depth of water along the whole front of 12 feet at L.W.O.S.T.

On the south side of the wharf is an inclined slip or ramp, 10 feet wide, with a slope of one in nine, terminating in a level platform, 20 feet long, 5 feet above L.W.O.S.T. In the angle of the 'L' is a combined freight shed and waiting-room, 31 by 19 feet. In the outer 225 feet in length of the wharf the whole of the boarding is of Virginia loblolly pine, impregnated with 14 pounds of creosote to the cubic foot. All the piles in the rest of the structure are of native timber. The caps, braces, stringers and guard timbers are of Georgia pine.

In 1912-13, the sum of $467.88 was expended in constructing a bulk-head or wave breaker of 5-inch plank along the outer face of the pier, also a flight of steps in the angle of the 'L.'

### WEST PUBNICO.

West Pubnico, Yarmouth county, is situated thirty miles southwest of Yarmouth. Pubnico harbour is about eight miles long, from mouth to head, lying due north and south, and three-quarters of a mile to a mile and a half wide.

On the west side of the harbour, and about 3 miles above its mouth, a wharf was built by the department in 1905-6-7. The work consists of a stone and gravel cause-

way or embankment, 285 feet long, followed by a pile-work wharf, 230 feet long, 25 feet wide and from 10 to 14 feet high.

Between 1908-12, several expenditures were made by the department in repairs, renewals and extensions.

In 1912-13, the sum of $399.74 was expended in repairs and renewals to the floor of the wharf.

WEYMOUTH.

*Dredging.*

Weymouth is the second largest town of Digby county, with a population of 1,600 people, situated on the Sissiboo river, about three miles from its mouth. It is an important station on the D. A. Ry., 170 miles from Halifax, twenty miles southwest from Digby, and forty-seven miles north of Yarmouth. The port has weekly steamer communication with St. John, N.B., and intermediate ports; for the greater portion of the year, a daily service is had with ports in St. Mary's bay. The chief business of the place is the export of lumber, of which from five to ten million feet are annually shipped, mostly to South American ports. The trade is handicapped by lack of sufficient water in the channel of the river, and large barques, which carry the lumber, after taking on about half their cargo at the town wharfs are obliged to complete their loading in the bay about 4 miles below the town, the lumber being conveyed to them in scows.

On 30th of September, 1912, a contract was signed by the Halifax Dredging Company, for the removal of 65,000 cubic yards of boulders, sand and mud, at 48½ cents per yard, from the channel of the river, near its mouth.

Work was begun on 7th of November, and suspended for the season on 6th of December, 1912. The quantities removed being 3⅓ cubic yards of class 'A' (boulders over 2 cubic yards in measurement) and 12,532 yards of class 'B' (sand, gravel and small boulders). This work was comprised within a length of about 1,200 feet, a width of 100 feet and an average cut of between 2 and 3 feet, or to 6 feet below L.W.O.S.T.

Spring tides rise 21½ feet; neaps, 17 feet.

The object of the work is to permit large vessels to approach the town wharfs during a longer period before and after high water.

To complete the contract there still remains 52,468 cubic yards to be dredged.

WHITE POINT.

White Point is a fishing settlement about six miles west of Liverpool, having a population of from three to four hundred people, most of whom are engaged in fishing. A breakwater, constructed by the department twenty-five or thirty years ago, was not high enough to protect the inside, which is used by the fishermen for a landing. Several times, this landing has become filled in by storms which moved several hundred tons of stone over the breakwater into it, and on each occasion they had to be removed. Otherwise, fishing from this station would have been impossible. The old breakwater, constructed of cribwork, some 166 feet in length, was in very bad condition, and a report was made asking for the sum of $4,000 to construct a new work. During the last fiscal year, the sum of $1,000 was granted. Owing to the fact that it would be useless to attempt to construct any structure at this place for $1,000, this was not utilized. In the meantime, the old breakwater had been severely shattered by storms, so that in order for the boat landing to be properly protected, it would be necessary to keep the old work in repair. The sum of $600 was therefore authorized to be expended in effecting these repairs. There was a portion of it, 37 feet in length, completely carried away, and the amount of $566.05 was expended in reconstructing the same. Work was commenced August 7, and completed September 18, 1912. For

this amount of money, the 37 feet of cribwork, 20 feet wide and about 8 feet high, was rebuilt. Besides that, considerable protection on the outside end of the work was afforded by means of adding sheathing. The work was satisfactorily performed, and has stood the winter all right. Tides rise, spring, 7 feet; neap, 4½ feet.

### WHITEWATERS.

Whitewaters, Kings county, is a small farming and lumbering settlement of about 200, situated on the west side of Minas Basin, about three-quarters of a mile south from cape Blomidon and ten miles northeast of the village of Canning.

In 1897-8, the department built a public wharf of block and span, at a cost of $4,000. It is 285 feet long, 20 feet wide, with an 'L' at the outer end 35 feet long, where at H.W.O.S.T. there is a depth of 7 feet of water.

Spring tides rise 40 feet.

Between 1901-12, some few expenditures were made in repairs and renewals, of which a full account will be found in the departmental reports for 1904-5 and 1911-12.

In 1912-13, the sum of $1,000 was expended in completing the renewal of the upper 4 feet in height of the wharf, which was begun last year, but not finished.

### WHITNEY PIER.

Whitney Pier, Sydney, Cape Breton county, is a large residential and manufacturing district, situated at the extreme northern end, and within the limits, of the city of Sydney. The shipping piers of the Dominion Coal and Steel Company, as well as many of their plants, and other industries, are located in the district.

During 1908-9-10, the department constructed a public wharf for the benefit of the district, 620 feet in length and extending to 6 feet at low water. It was originally intended to extend it to 11 feet at low water, but as it was feared that its outer end would be exposed to the heavy pressure of running ice in the spring, it was decided to dredge a channel from the main channel to the wharf, carrying a depth of 11 feet at low water, and on July 10, 1912, a contract was entered into with the Coastal Dredging and Construction Co., Ltd., of Sydney, for the purpose.

The company's dredge *Cadeco* commenced operations on July 9, and continued until August 20, when the amount of dredging contracted for was completed, removing, during that period, 25,006 cubic yards, scow measure, of sand, gravel, hardpan and layer rock, at 34 cents per cubic yard, plus 3 cents per yard for extra towage, and in overcasting 654 cubic yards of sand and hardpan at 22⅔ cents per yard; but owing to the presence of solid rock, the depth required could only be carried to within about 50 feet from the outer end of the wharf. The total amount paid the contractors for their work amounted to $9,400.46.

The channel dredged is about 260 feet in length, and 400 feet in width at the mouth and about 250 feet in width at its inner end.

### WINDSOR.

Windsor, Hants county, is the county town, with a population of 4,500, and is situated at the head of the estuary of the river Avon, on the Dominion Atlantic railway, forty-six miles from Halifax. In the neighbourhood are extensive gypsum quarries, of which about 120,000 tons are annually shipped to the United States. Some two or three million feet of lumber, b.m., are annually exported by water.

During the fiscal year 1910-11, the sum of $2,385 was expended in the removal of 3,975 yards of mud from the shipping berth at the public wharf. From 3 to 5 feet in depth of mud was removed for the whole length of the wharf, a distance of 450 feet. The work was done under contract.

In the fiscal year 1912-13, the sum of $382.62 was expended in the purchase and placing of new angle-iron, repairs to planking, &c.

Work was begun July 6, completed July 31, 1912.

*Dredging.*

The object of this work is to provide safe berths for vessels.

From April 1 to middle of May, 1912, 5,000 cubic yards of mud were removed by hand at a cost of 60 cents a cubic yard.

WOLFVILLE.

Wolfville, Kings county, is a town of about 2,000, situated on the right bank and near the mouth of the Cornwallis river, which issues into the Basin of Minas at its southwest corner. It is an important station on the D. A. Ry., half way between Annapolis and Halifax; sixty-six miles from Annapolis and seven miles east of Kentville, county town of Kings.

In 1900-1, the department, at a cost of $6,360.50, built by contract, a public wharf of pile-work on the right bank of the river, near its mouth. Owing to the erosion of the bank of the river at the shore end of the wharf, and the exceptionally heavy ice, the wharf was destroyed in the winter of 1903-4, and rebuilt in cribwork in 1905-6. Full particulars will be found in the departmental reports for 1906-7 and 1911-12.

In 1912-13, the sum of $2,286.39 was expended in filling, with brush and stone, a hole 30 feet wide, 10 feet deep and about 30 feet long, on the north side of the steamer bed in front of the wharf, and another hole 40 feet long, 30 feet wide and 18 feet deep on the west side. These holes had been eroded by the force of the current and they threatened destruction to the wharf. The steamer bed in front of the wharf was rebuilt and strengthened with heavy piles and braces, and filled with brush and stone. Ten mooring piles were also placed along the edge of the creek in the vicinity of the wharf.

YARMOUTH.

*Dredging.*

Yarmouth, with a population of about 7,000 people, is one of the largest and most important towns in Nova Scotia. It is the land terminus of the D. A. Ry., 217 miles from Halifax. It is also the sea terminus of the D. A. Ry. line of steamers, between Yarmouth and Boston. The volume in shipping, inwards and outwards, is from 150,000 to 200,000 tons annually. The number of passengers inwards and outwards amount to about 75,000 to 80,000.

In 1912-13, the Dominion Dredging Company, under contract of 18th of September, 1912, began work on 31st August, 1912, in deepening and widening the steamer channel in the lower part of the harbour, immediately to the eastward of Sollow's Rock shoal. The dredged channel is comprised within a length of 1,500 feet, a width of 335 feet with a depth of dredged material of a maximum of about 6 feet. The quantities in this piece of dredging were 30·6 cubic yards (class A), (boulders over 2 cubic yards in measurement), and 52,760 yards (class B), consisting of sand, gravel, with some little hard-pan and boulders. This piece of dredging was finished on the 25th of November. On the 26th of November, dredge moved to the upper part of the harbour and widened the channel opposite the D. A. Ry's upper wharf. This piece of dredging being of crescent shape, 350 feet long with a maximum width of 90 feet and of an average depth of dredging of 24 feet, or to 18 feet below H.W.O.S.T. The quantity taken out here was 16,454 yards, class 'B,' consisting of fine muddy sand. In the dock immediately to the south of the D. A. Ry's. north wharf, a quantity of 5,667 yards of class 'B,' was also dredged, the depth of cut being from 3 to 10 feet, or to 18 feet below L.W.O.S.T. The whole work was done on the place measurement principle.

The object of the dredging in the lower part of the harbour was the improvement of the steamer channel, which was, and still is, very crooked at the entrance to the harbour, and at one spot about opposite Sollow's Rock shoal there was only a depth of some 16 feet. Still further widening and straightening of this portion of the channel will be necessary before larger steamers, for the development of the tourist and other passenger business, can be properly employed.

In the upper part of the harbour, the widening of the channel opposite the D. A. Ry. wharf, to permit larger steamers to turn on approaching and leaving the wharf, will require further widening.

The object of the dredging in the south dock of the D. A. R. wharf was to permit a steamer to lie on the south face of the wharf, without projecting into the channel to an inconvenient distance beyond the face of the wharf. At least another 5,000 yards should be removed from this dock before a steamer can get far enough up for convenience.

In Yarmouth harbour, spring tides rise 14 feet; neaps, 12 feet.

YARMOUTH BAR.

Yarmouth harbour lies about NNE. and SSW. (true), and from the upper wharfs to the mouth of the harbour is nearly four miles. At about the middle of its length and for a distance of about three-quarters of a mile it is protected from the main waters of the Bay of Fundy by a beach of gravel and shingle, connecting Cape Fourchu, an island, or more precisely a peninsula, with Stony point, the southern extremity of the mainland, forming the western side of the harbour.

In 1867, the provincial Government began the construction of a beach protection work at Stony point, and between 1873 and 1875 the Public Works Department built the remaining thousand feet to reach the north end of Cape Fourchu.

Since 1875, the department has made numerous expenditures in repairs, renewals and extensions to the beach protection work, of which full particulars will be found in the departmental reports for 1910-11 and 1911-12.

In 1912-13, the sum of $911.58 was expended in repairs and renewals to the beach protection. Near its eastern end, a piece was entirely taken down and rebuilt, 30 feet long, 20 feet wide and 17 feet high. Rpairs were also made to the floor in a number of places.

YOUNGS LANDING.

Youngs Landing, Lunenburg county, is situated on Princess inlet, Mahone bay, about three miles to the north of the town of Lunenburg. The district is an excellent agricultural one. A wharf was constructed by the provincial Government before Confederation. In 1899-1900, the work being in a dilapidated condition, the department expended the sum of $795.58 in constructing a wharf upon the same site as the old one. The work was of block and span, measuring 89 feet long, 22 feet wide and 12 feet high at the outer end, with an approach of 40 feet.

In the fiscal year 1912-13, the sum of $677.57 was expended in the construction of a new block at the outer end of the wharf, 20 feet square and 16 feet high, and in the building a small slip on the northern side of the wharf. Repairs were also made to the older portion of the work, the planking, stringers and guard rail being removed and replaced.

Work was begun June 1, completed June 23, 1912.

## PRINCE EDWARD ISLAND.

### ANNANDALE PIER.

The Annandale pier is situated on the north side of the Grand river near its entrance to Boughton bay, and is one of the 'Prince Edward Island Piers,' control of which was assumed by the Dominion Government in 1883-4; while as to its construction, dimensions, &c., and expenditures at different times made for its maintainance, such is fully described in departmental report of 1906-7.

During the present season, much of the covering of the pier head and approach, having through age and decay become so defective as to be unfit for traffic, required renewal of the planking, and was effected, the work being commenced 1st and completed 8th November, at a cost in all of $224.85.

### ASYLUM WHARF.

*Dredging.*

The Falconwood asylum, maintained by the government of Prince Edward Island, is situated on the north bank of the East or Hillsborough river, about one and a half miles east of Charlottetown, and for convenience in carriage of the coal required for the institution, the local government, in 1906, built a small wharf extending to about low water at the place, and to which the department, same year, dredged a channel about 50 feet wide and 750 feet long, carrying a depth of about 6 feet at low water, or 15½ feet at high water springs, that here rise 9½ feet. The channel, however, being about directly across the course of the current, it had, by 1909, filled in so as to require clearing out, as was done, also in 1911, and again being required, the dredge *Prince Edward* worked from 2nd to 12th July, removing in all 3,750 cubic yards, scow measurement, of sediment, composed of mud and seaweed.

### BAY VIEW PIER.

Bay View pier is situated on the eastern side and near the mouth of the Hope river that enters New London harbour about three and a half miles southeast of the harbour's entrance. The pier, which is one of those, the control of which was assumed by the Dominion Government in 1883-4, has in all a length of 510 feet, consisting of shore abutment, or approach, of 405 feet, 20 feet wide, with pier head 105 feet long, from 25 to 35 feet wide, which extends out to a depth of 8 feet at low water, which was done by dredging in 1901; the pier has also, at different times, received repair and strengthening. During the past season, the sum of $401.02 was expended in renewal of the top portion of the pier-head where covering and portion of floor stringers had become defective; new guard timbers and additional fender piles were also put on and the pier placed in good and serviceable condition for traffic. The work was done from August 16 to September 13.

### BELFAST PIER.

Belfast Pier, locally known as Halliday's wharf, is situated on the south side of Orwell bay, about one mile from the village of Eldon, and was constructed by the provincial Government very many years before Confederation, to provide shipping facilities for the district; also as a place for the calling of the passenger and freight steamer that, during season of navigation, plies between Charlottetown and different points in Orwell bay, etc.; its construction, dimensions, etc., are fully given in departmental report of 1905-6, as well as extension and other improvements made to it at different times by the department since 1883-4, when its control was assumed by the Dominion Government.

During the past season, October 1 to 31, the top of the approach, 80 feet in length and 32 feet wide, immediately adjoining pier-head, was renewed; new floor stringers, covering and guard timbers being put in, where such, by age, had become defective, and the work otherwise placed in safe and good condition for traffic.

BELLE RIVER HARBOUR.

Belle River harbour is situated on the south side of the Island about four miles from Wood islands and 6 miles east of the entrance of Pinette harbour, being formed at the mouth of the Belle river by works commenced by the provincial Government many years before Confederation, and consisting of breakwaters, on either side of the entrance, and two small shipping piers some distance within, the accommodation given by the latter not being considered sufficient. The department, at the request of the shippers, merchants and residents of the district have, during the past season, contracted a wharf 60 feet long, by 22 feet wide, on the north side of the river or harbour; the work which was commenced on the 10th July and completed 5th October was not, however, continually in progress, at an expenditure of $1,128.65.

BONSHAW WHARF.

The village of Bonshaw is situated about fifteen miles west of Charlottetown, at the head of navigation, on the West or Elliot river, and being the centre of a thickly settled district, the road approaches to which, from Charlottetown, being very hilly, the greater portion of the heavy freighting for the district (this particularly in the past few years and since increased use of motor boats), has been done to Bonshaw, where use was made of the old public road bridge there crossing the river for the purpose of a wharf; latterly, however, having become defective, and being replaced by a new steel bridge, impossible for use for wharfage purposes.

To provide a landing in lieu of the former facilities afforded by the old road bridge, the department, during the past season, has constructed, on the east side of the river a short distance below the bridge, a small wharf 40 by 40 feet; this is built of pile bents, capped, floor stringered, planked, etc., the face and end of which is fender-piled at 5 feet centres, while a good road approach to it was made up with broken stone and gravel; the work was commenced 7th of September and completed 7th of November, not, however, being continuous, owing to having at times to await delivery of materials. The work, which cost in all $437.77, should prove sufficient for traffic requirements.

CAPE TRAVERSE WHARF.

Cape Traverse wharf is situated on the south side of P. E. Island, about fifteen miles east of the entrance to Summerside harbour, being first commenced by the provincial Government in 1869, and which, by 1878, had built a length in all of 1,470 feet, with a width of 24 feet. In 1885, the control of the wharf was assumed by Department of Railways and Canals, that had then controlled a branch line of railway to Cape Traverse, adding, as well, an extension of 300 feet to the wharf. For the past sixteen years, however, the Railway Department has practically abandoned the wharf, and removed from it the tracks, freight sheds, etc., and entirely neglecting all repairs, so that the persons for whose accommodation the wharf was first built were being put to great inconvenience until some repairs were effected by this department in 1907, when an inner portion of it was made available for use, some further repairs were also effected during 1911, to keep it passable.

During present season, the sum of $785.78 was expended for the same purpose, and consisted in the rebuilding of a length of about 150 feet of channel face of wharf,

floor stringers, covering, ballasting, while the face end on the adjoining 100 feet new fender piling was put on; commencement of work was made 15th July, and completion 7th September.

CHINA POINT PIER.

China Point pier is situated on the west side of the Orwell river, near its entrance into Orwell bay. Originally built by the local Government, its control was assumed by that of Dominion in 1884. It has, in all, a length of 426 feet, the pier head being 42 by 37 feet, and fronting on the channel where a depth of 15 feet at low water, or 23 feet at high-water springs, that here rise 8 feet. Being an old structure when assumed by the Dominion Government it has since required much repair to keep it in passable condition.

During present season, an expenditure of $176.14 was required for renewal of portions of the covering pier-head and approach, and making up settlement in roadway; the work was commenced 24th September and completed 25th October; work, however, not being continuous, but only occupying eighteen days.

COVEHEAD HARBOUR.

Covehead harbour is situated on the north side of the island, about midway between Tracadie and Rustico harbours, and distant, by road, about fourteen miles directly north from the city of Charlottetown; within its entrance, which, at low water, is about 250 feet wide, the harbour or bay has a length of about four miles, and is navigable over the greater of its extent for small vessels and boats, such as can cross the outer bar, where, however, only about 3½ feet at low water, or 7½ feet at high water springs, is carried, the latter rising here, at most, about 4 feet. The harbour proper commences about immediately inward of the entrance and extends westward between the sand beach and what had been an extensive sand flat, dry at half tide; and on its western side also, formerly the main channel, being some 300 to 400 feet wide, and carrying 5 feet, or better, of water at low water springs, while a small channel, then existing on the western side of the shoal, was but quite narrow. A change, however, having taken place in this, as described in departmental report of 1904-5, works were then constructed, under contract, for the preservation of the original main channel or harbour, and on which are situated the fishing stages, lobster factories, etc.

Owing to exposed situation of the works, and having, as well, scour and settlement to contend with, owing to nature of bottom, its repair from time to time can only be expected; and such being found necessary during the past summer, its general repair was in so far as possible effected, ballasting being made up, further fender piling being driven, and numbers of defective cross and longitudinal timbers renewed, the work being commenced 28th July and completed 26th October. During the month of March, the sum of $49.75 was expended in making up, with brush, the beach protection work, 370 feet in length, on west side of the harbour. Total expenditure for fiscal year, $1,190.68.

CRAPAUD PIER.

Crapaud pier is situated at the head of navigation of the Crapaud basin, at Victoria village, which, next to Summerside, is the most important place for shipments on the southern side of the island; the place is about midway between Charlottetown and Summerside harbours, and about eleven miles south of 'Emerald Junction' on the line of the P. E. Island railway. The pier has a length of 468 feet, consisting of shore abutment or approach 286 feet long and 20 feet wide; middle section 143 feet long and 37 feet wide, and the pier head 57 feet long and 58 feet wide; with the excep-

tion of the approach, which was built solid, it consisted originally of a series of blocks and spans, the latter was floor stringered and planked over, while the blocks, excepting the outer one which was planked over, being solidly filled in, as was that of the approach formed of broken stone and gravel. Since the control of the pier was assumed, in 1884, by the Dominion Government, all of the spans have been solidly filled in and, as also as found required, other expenditure made by the department so as to keep it in good condition for traffic.

During the past season, the sum of $500 was expended in the general repair and strengthening of the work, consisting in the re-planking of a width of about 20 feet of the pier-head, putting down new plank sidewalk on portion of approach, the top face timbers and guard timbers which were found decayed were renewed and fender-piling was re-planked where such had been carried away or broken at the sides or corners of the pier-head.

### FRANKLIN POINT.

Franklin point, within Charlottetown harbour, is situated on the west bank of the North river, near its confluence with the East, or Hillsborough, and the West river.

For accommodation of lots 30, 31 and 32, and generally of southwestern portion of Queen's county, a contract was entered into December 5, 1912, with Messrs. Harvey D. McEwen, Kimble Coffin and Kimble A. Webster, in the sum of $24,990, for the construction of a wharf having an approach 540 feet long and guide piers of dock 110 feet in length. Materials are now being delivered at site; construction work to commence shortly after departure of ice from the coast, probably about 15th April.

### GORDON'S POINT.

Gordon's point wharf is situated on the south side of the Foxley river near its entrance into Cascumpec bay, and distant by road about six miles from Alberton, or by water, across the bay, about three miles from the wharf of the P. E. Island railway. It was built by the provincial Government in 1893, to provide shipping facilities for the district, and consisted of shore abutment or approach 275 feet long by 20 feet wide, and a span of 18 feet wide and an outer block or pier-head 30 by 30 feet, the latter extending out to a depth of about 8 feet at low water or of 12 feet at high water springs, that here rise 4 feet.

The pier-head, however, was carried away down to about height of low water, and the remainder of the wharf so injured by a storm that occurred in the fall of 1909, as to be rendered perfectly useless, the necessary repair of which the provincial Government being unwilling to undertake, and the matter being taken up by the department, a contract was entered into 20th December, 1911, with Messrs. Rankin and Gordon, for the repair and re-construction of the wharf for the bulk sum of $2,400.

The work, which was commenced June the 11th, but not since continuously carried on, being suspended at different times for the want of materials or labour, is now satisfactorily completed.

### GRAHAM'S POND.

Graham's pond is situated on the east coast of the Island, about five miles southeast of entrance into Cardigan bay, as also about same distance north from entrance to Murray harbour.

The pond has a length of about half a mile and width of from 600 to 800 feet, and carries, in the most part, for some distance within entrance, a depth of from five to seven feet at ordinary pond level.

During 1900, the Marine Department expended a small sum in the opening of new channel into the pond, as the then existing one had gradually worked to the south,

and where it passed over a rocky reef could not be used for the entrance of boats; the work done, however, did not prove permanent and the channel moved back to its original position.

An attempt to improve the place was commenced by this department in the fall of 1901, and has since been continued at different times, as described in departmental reports of 1907-8-9, and while the works, &c., constructed have been for the most part inexpensive, they have proved of much benefit, affording safe shelter for fishing boats and lessening the labour of the fishermen, who formerly, generally, had to haul their boats up above high-water mark on the beach. During the storms that occurred December 1 and 27, 1909, considerable damage was done.

The present year, with the sum of $1,250 appropriated by parliament, general repairs and strengthening were effected, these consisting in the rebuilding to full height, covering, fender-piling, &c., an 80-foot length inward of the outer 30-foot block of the southern pier; repairing, building up, fendering and covering the next 100 feet inward, and reconstructing a further length of 100 feet inwardly. On the southern side of the channel, 75 feet inwardly of the outer block was built up, ballasted, covered, fendered, &c., some clearing out of the 'run' was also done. The work which was commenced July 25, was completed September 28, and cost $1,241.

### GRAND RIVER.

Grand River (North) wharf is situated on the north side of Grand or Ellis river near its mouth where it enters Richmond bay and about seven miles northeast from Wellington station on line of the Prince Edward Island railway. It was constructed by the provincial Government in 1880-1-2, but by 1902-3, having become unserviceable and the local Government unwilling to effect repair, it was then transferred to the Dominion Government, by whom it was put in good and useful condition. The department as well, during summer of 1911, improved the approach to, and water carried at, the sides and end of the pier-head, the dredge *Montague* working there July 19 to 31, removing 8,700 cubic yards of material composed of mud and clay, giving a depth of 10 feet at low water.

It being found that fender piling had been destroyed by the action of the *teredo* these were renewed, and while doing so, their tops were left extending several feet higher than the pier-head, which had somewhat settled, too low for the exposed situation; to remedy this, during the past season, the pier-head and adjoining approach was built up about two feet in height and about level with the fender piles put in last season, and with which they were connected. Some general repairs, as well, were effected to other parts of the wharf, placing it in serviceable condition. The work was carried on July 2 and completed only October 31, as work was not continuous; the total expenditure was $497.67.

### HICKEY'S WHARF.

Hickey's wharf is situated on the south side of the Hillsborough river about ten miles east of Charlottetown, and one of the Prince Edward Island piers, control of which was assumed in 1883-4 by the Dominion government, being important as a place of shipment for a large agricultural district lying on the south side of the river, not supplied, as most other portions of the province, with railway facilities. The work being a very old structure when taken over by the Dominion Government, has since required, from time to time, considerable expenditure to keep it in passable condition for traffic. During the past summer, the planking and floor stringers on the two outer spans had become defective, as also timbering on the faces of the adjoining blocks, the fronts of the latter have been secured and strengthened by creosoted fender piling, the latter being capped, forming a support for the new floor stringers, covering, &c., that have also been put on, while the fendering on ends or sides of the

wharf were refastened or otherwise repaired or renewed as found necessary, all of the work being placed in good and passable condition; the work was commenced July 3 and completed October 22, but was not carried on continuously.

HURD'S POINT.

Hurd's Point pier is situated on the southern side of Bedeque or Summerside harbour, and is one of the Prince Edward Island piers, control of which was assumed by Dominion Government in 1883-4, and is in all about 500 feet long and 26 feet wide, excepting at the outer end or pier-head, where, for a length of 50 feet, it is 65 feet wide, where a depth of 10 feet at low water is carried, or of 17 feet at high-water springs, that here rise about seven feet.

The place is most important as a shipping point, being the only outlet by water for a very large well cultivated district, and is a place of call about bi-hourly, daily, during the season of navigation for the ferry steamer plying between it and Summerside. As the work is now an old structure and exposed to the action of the *teredo,* ice and storms, necessary repairs to pier-head were begun October 24, and were satisfactorily completed December 6, 1912. Work done was the renewal of fender piling, part of which was of creosoted timber, slips of pier-head, and about half surface of latter being replanked. The total expenditure during the fiscal year amounting to $969.26.

KIER'S SHORE.

Kier's Shore pier is situated on the east side of Richmond bay, about seven miles north of Kensington, a village and a station on line of the P. E. Island Railway. It was originally built by the Government of P. E. Island many years before Confederation, and one of the P. E. Island piers, control of which was assumed by the Federal Government in 1883-4, since when it has, besides being kept in repair, been much improved, enlarged, &c., and its approach improved by dredging, as described in departmental reports of 1899-1900, 1906-7 and 1911-12. During the past fall, the roadway approach, which is formed of broken stone and gravel, having become much out of repair through wash-out and settlement, was made up and put in good order; the work being commenced 28th of October and completed 11th of November, at an expenditure, in all, of $200.

MC PHERSON'S COVE.

McPherson's Cove pier is situated on the south of Grand river, and a short distance west of what is known as 'Morrison's Beach' and which separates the Grand river from Boughton bay; its construction was commenced in 1904, and being now as described in departmental reports of 1908-9-10.

During the past year, since slight settlement and wash-out having occurred in the filling of the roadway approach, repair of this was effected, as also to the pier-head so as to place the work in good order for season's traffic; the work was commenced 3rd and completed 10th of October, and costing, in all, $100.

MIMINEGASH HARBOUR.

Miminegash harbour is situated on the northwest coast of the Island, about fifteen miles south of North cape and about eighteen miles north of West point. Works for the formation of a boat harbour were commenced by the Dominion Government in 1878, and since continued from time to time, until now consisting of piers or breakwaters on either side of the entrance, making its position permanent, and confining its width to about 60 feet; the pier on the north side is now 590 feet long, and that on the south side 400 feet, inward of each of which protection works have been built so as to guard against new channels forming through the beaches,

which originally were little above high-water spring tide mark, by which a most useful and convenient boat harbour has been provided and from which also quite a large amount of shipment of produce and import of coal, lumber and general merchandise is carried on, four to five small schooners being regularly employed in freighting during season of navigation, the approach to the harbour originally about dry at low water, carrying now, at that stage of the tide, about five feet, which, with rise of four feet at spring tides, gives quite good accommodation for desired traffic.

During the past season, repair was made generally to the works, and consisted in renewal of fender and close-piling on the northern work, where damaged by attack of the *teredo* and action of the running ice; portions of the roadway on both breakwaters were in part replanked, as also at the inner end of the northern work, new floor stringers put on and the work put in good condition. The repairs being commenced 5th August and completed 4th October, not, however, being continuous, while cost was in all $875.57.

### MONTAGUE RIVER.

#### *Dredging.*

Montague village is situated at the head of navigation of the Montague river, and terminus of the Montague branch of the P. E. Island Railway, and an important shipping point, being visited spring and fall by numbers of schooners, with and for cargoes. It is also the port of call several times weekly for the ss. *Enterprise,* plying during the season of navigation between P. E. Island, Cape Breton and Nova Scotia, and this season for the s.s. *Swansea Trader.* For the better accommodation of which traffic, improvement in depth of water and width of river's channel, in vicinity of the village, was in progress during past season, the dredge *Montague* being employed 26th September to 23rd November, removing 42,100 cubic yards of mud and clay, scow measurement, and affording a depth of 13 feet at low water over the area worked over. The dredge was also employed December 10 to December 12, removing 2,400 cubic yards.

### MOUNT STEWART.

#### *Dredging.*

Mount Stewart village is situated at the head of navigation of the Hillsborough river, about eighteen miles east of Charlottetown, and junction of Souris and Georgetown branches of the P. E. Island Railway; it has a population of about 500, while surrounding districts thickly settled being also interested in improvement in freighting facilities by water to and from the place, which is carried on in schooners, usually of from 50 to 100 tons. Suitable wharfage having been provided, as described in departmental reports of 1908-9-10, the improvement of channel approach was also taken up September 1, 1911, and up to the 17th of November of that year, the dredge *Prince Edward* was employed in forming a basin, and in deepening the water at end and sides of the Government wharfs, so as to carry 7 feet at low water or 17 feet at high water springs, that here rise 10 feet; a commencement was also made in the improvement of the channel, and this was recommenced by the dredge *Prince Edward* August 1 last, and continued up to the 29th of November, when the first cut, or about nearly half width of channel improvement intended, had been made, and 32,725 cubic yards of mud and soft clay, scow measurement, were removed; length of channel deepened being about 6,000 feet, width 45 feet, and depth of cut, about 4 feet.

The above, including 3,700 cubic yards, scow measurement, of soft mud removed at Pisquid wharf, commonly known as Gillis' wharf, forming loading berth and turning basin 100 by 140 feet at end of wharf, giving about 6 feet at low water, spring tides.

NAUFRAGE POND.

Naufrage pond is situated on the north coast of the Island about twenty miles west of East point, and fifteen miles east of the entrance into St. Peter's bay, while by road it is distant about thirteen miles directly north from Souris. Description of the pond, and as to what has been done by the department towards formation of a small boat harbour at the place, is fully described in departmental report 1909-10.

With the view of improving the approach and shelter for boats, a contract for $6,789 was entered into with Mr. W. H. Townshend, July 20, 1912, for addition of 150 feet to the northern pier and of 50 feet to the southern, and deepening of the entrance 2 feet; work was commenced July 25 and satisfactorily completed January 29, 1913.

During the month of March, advantage was taken of the hauling, materials costing $287 were delivered for beach protection work, which it is proposed to commence early the coming season.

Total expenditure for fiscal year, including inspection of contract work, $7,306.75.

NEW LONDON.

New London harbour is on the north coast of the Island about ten miles east of entrance into Richmond bay, and nine miles west of Rustico harbour; it is about three miles long and nearly as wide, receiving the waters of the South West, Stanley, French and Hope rivers all navigable for at least short distances, and having at them wharfs, or shipping places, from which export is made of the surplus farm produce raised; general merchandise, coal, lumber, etc., are imported; the harbour being also used as a shipping station and place of refuge, being convenient to some of the best fishing grounds in the Gulf of St. Lawrence.

For the improvement of its entrance, which is obstructed by a shifting sand bar, works were commenced by the department in 1878, and have since been extended, etc., from time to time, as described in departmental report, 1908-9.

During the past season, the sum of $1,200 was expended in rebuilding a length of 286 feet of the beach protection at the eastern side of entrance, and effecting repair of covering, fendering, etc., of the outer end of breakwater; the work was commenced August 15, and completed November 9.

NINE MILE CREEK.

Nine Mile creek is situated about six miles west from the entrance of Charlottetown harbour on the shallow inlet between St. Peter's island and the mainland; there is, at the place, a small wharf, originally constructed by the provincial Government, the control of which was assumed by the Dominion in 1884, as described in departmental report of 1901-2. The approach to the wharf, which had originally extended to low water, was effected by the departmental dredge *Prince Edward,* during the season of 1910 (30th August to 8th December); a channel 900 feet in length, 65 feet in width and carrying a depth of 7½ feet at low water, or of about 16 feet at high-water springs, that here rise 8½ feet, being formed from the outer deep water up to the end of the pier, loading berths also being made at the end and northern side.

During the past summer, June 10 to September 7, the pier and roadway approach, which were somewhat out of order, were thoroughly repaired and placed in good condition for traffic; the work consisting in re-fendering generally of the pier-head; partly ballasting and repair of covering on same, and making up roadway approach with broken stone and gravel, the expenditure for all of which was $497.31.

NORTH CARDIGAN.

North Cardigan pier is situated on the north side of the Cardigan river, about five miles below Cardigan bridge, and is one of the P. E. Island piers, the control of

which was assumed, in 1884, by the Dominion Government, since when it has about been rebuilt by the different repairs and improvements made to it, as described in departmental report of 1904-5.

During the past season, the sum of $480 was expended in reconstruction of top portion of about 80 feet in length adjoining pier-head, where covering, floor stringers, etc., had become defective; renewal of several of the fender piles were also made, ferry slip landing repaired and placed in as good condition as possible.

PORT SELKIRK.

Port Selkirk pier is situated on the south side of the Orwell river, near its entrance into Orwell bay, and distant by water about twenty miles from Charlottetown, to where communication is had twice a week by the passenger and freight steamer which plies there and to other places on Hillsborough bay and vicinity; the pier is also a shipping point for a large and productive district, exporting each season quantities of general farm produce, and importing coal, lumber, etc., which traffic is carried on in schooners of from 50 to 100 tons.

The pier, which was built by provincial Government many years before Confederation, is in the form of a 'T' consisting of a pier-head 230 feet long and 35 feet wide, fronting on the edge of the channel, and an approach 250 feet long by 23 feet wide, all of the work excepting the inner part of the approach being composed of a series of blocks and spans, floor stringered and planked over. Since its control was assumed by the Dominion Government in 1884, at which time it was in very bad condition, expenditure has been required about every few years, as described in departmental reports of 1899-1900, it being exposed both to action of running ice and ravages of the *teredo* and *limnoria*, which latter are particularly active and destructive in this district.

During the past season, June 24 to 29, and September 19 to October 31, the sum of $694.40 was expended in the general repair, strengthening, &c., of the eastern portion of the pier-head, the spans in which were reduced to a width of 30 feet by the putting in of creosoted pile bents on faces of the blocks, while the latter, where settlement had occured, were built up the whole eastern length of the pier-head; about 100 feet was newly floor stringered and planked, 3 new mooring posts put in, and the work put generally in good condition.

POWNAL PIER.

Pownal pier is situated on the northeastern part of Hillsborough bay, about nine miles east from Charlottetown, and was built many years before Confederation, being one of the P. E. Island piers, control of which was assumed by the Dominion Government in 1883-4, since when, as mentioned in departmental reports of 1907-8, 1909-10, it has, at different times, owing to age, decay, storms, etc., required small expenditures to keep it passable for traffic and so it will, unless entirely reconstructed.

During the past season, August 21 to September 21, the sum of $279.06 was expended in repair of planking of outer portion of pier-head, and renewing of covering on eight of the spans of which the approach is in part formed, new floor stringers being put on one of them, besides which the roadway on the shore abutment was made up with broken stone and gravel, where settlement had occurred.

RED POINT.

Red point is situated on the southeastern side of the Hillsborough river, about six miles east of Charlottetown, and is one of the P. E. Island piers, the control of which was assumed by the Dominion Government in 1897-8, since when different small expenditures have been required for its preservation, it being a very old structure and

much out of repair when taken over; it is in all 650 feet long and averages 21 feet wide. While originally only extending out to about low water, has now, at end and along its sides for a length of about 100 feet and 50 feet wide, a depth of 10 feet at low water, or 19½ feet at high-water springs, that here rise 9½ feet.

During the past season, 11th to 21st June, 8th to 13th July, 12th to 30th August, 11th October to 14th November, the sum of $1,152.29 has been expended in the enlargement of a length of about 53 feet of the outer end of the pier, which was found much too narrow for the turning of teams; this enlargement was made by the use of creosoted bearing piles, placed at 5 feet centres along sides and outer end, and these, after being capped, connected with the old work, and the so formed new pier-head floor stringered and planked over, while along its sides and end, after 3 walings 12 by 12 inches were put on, close-piling was driven and secured; some general repair was also effected to other portions of the pier, placing it all for the time in serviceable condition.

ROBINSON'S ISLAND.

Robinson's Island breakwater is situated on the western end of Robinson's island, and on the eastern side of the entrance to Rustico harbour, being built in 1905-6-7 in conjunction with the similar work on its western side, for the purpose of narrowing the channel and thus (by increased current so caused, at ebb tides) by scour, improve the depth of water carried on the sand bar obstructing the entrance. The work has in all a length of 750 feet, the construction, etc., of which being described in departmental report 1908-9.

During the past season, the sum of $526.65 was expended in making up, with brush and stone, some washout and settlement that had occurred in the filling of the cribwork at the inner end and outer block.

SOURIS HARBOUR.

Souris harbour, King's county, is situated on the southern coast of the Island, about sixteen miles from East point, and is most important as a harbour of refuge and place of shipment, for both of which it has been rendered available by the breakwater built and maintained by the Dominion Government, as described in departmental reports of 1899-1900 and 1908-9.

To enlarge the harbour area, both in the interest of the general business of the place and to afford better refuge for coasting vessels, a contract was entered into October 18 last with Messrs. Beazley Bros., of Halifax, N.S., for the sum of $143,917, for the construction of an extension of 400 feet to the breakwater. Owing to difficulty in the procuring of materials so late in the season, it was not found possible making a commencement of construction, but these are now being delivered and work intended being begun shortly after departure of the ice from the coast, likely about May 1.

The dredge *Montague* was employed from the 10th of May up to the 7th of September, removing 39,642 cubic yards, scow measurement, of material, being in part mud, clay, sand and shelly rock.

SOUTHPORT.

Southport pier is situated on the south side of Hillsborough river, immediately opposite Charlottetown, and being among the first structures built by the provincial Government of Prince Edward Island, its use being more particularly for ferry purposes and for which so used up to the spring of 1908; after opening of the Hillsborough bridge for traffic it was abandoned, and, as for some years previous, in anticipation of having the bridge available, only sufficient repairs being put on it to keep it for the time passable, it very shortly being unserviceable and finally about a complete wreck

and of no use whatever for shipping purposes, as it had, it was said, to some extent always been employed. To obviate this, at the request of the residents of the district and meet the wishes of the provincial Government, the matter of its repair was taken up by this department, a commencement of which was made in the fall of 1911; also during winter of 1911-12 a quantity of material was procured, while the work for repair and reconstruction commenced 7th May, it was carried to completion 14th September, the expenditure for which was $3,945.21. To render the pier serviceable for shipping purposes, it being, for the most part, almost dry at low-water, the departmental dredge *Prince Edward* was employed 10th May to 28th June in forming an approach to shipping berths at end and eastern and western sides of the pier-head carrying about 9 feet at low water, or of 18½ feet, at high water springs that here rise 9½ feet, there being removed 15,454 cubic yards, scow measurement, of material composed of soft mud, clay, sand and stones.

### ST. MARY'S BAY.

St. Mary's Bay pier is siuated on the south side of St. Mary's bay, about six miles directly south by water from Georgetown, the shire town of Kings county, and one of the P. E. Island piers, constructed many years ago by the provincial Government, and control of which was assumed by the Dominion in 1884, the pier as described in departmental report of 1899-1900 being a very old structure and much out of repair when taken over by the Federal Government, it has since, from time to time, required repair to keep it in passable condition for traffic.

Such was the case during the present season, an expenditure of $100 being required for the replanking of a portion of pier-head and renewal of some of the fender piling, both of which were effected 20th to 31st August.

### ST. PETER'S BAY.

St. Peter's bay has its entrance into the Gulf of St. Lawrence about thirty-five miles west from East point, and about twenty-five miles east from Rustico harbour; the bay is of considerable extent, running inland about nine miles, with an average width of three-quarters of a mile, and carrying a depth of from two to three fathoms at low-water, the entrance, however, like that of all the harbours on the north side of the island, being obstructed by a shifting sand bar, has interfered with its use excepting for the smaller class of fishing vessels and boats not over 5 or 6 feet draft, for improvement of which works were commenced by the department in 1878 and since has been continued from time to time, as described in departmental report of 1909, and by which, from all reports, the water on the bar has been increased fully 2 feet, and the place otherwise benefited.

During the past season, the sum of $852.52 was expended in making up the ballasting where settlement had occurred, and in the outer portion of the eastern breakwater, and in the general repair and strengthening of the outer part of the western one, which was in part re-covered, ballasting made up and fendering of north side replaced where damaged by *teredo* and the action of running ice. Work was commenced 17th August and completed 7th November.

### ST. PETER'S BAY.

Head St. Peter's Bay wharf was originally built by the provincial Government many years before Confederation, and is one of the P. E. Island piers the control of which was not assumed by the Dominion Government in 1884 when many others were taken over, and so remained under the care of the local Government, who, for latter years, having neglected its repair, it had by 1910-11 become entirely useless as a shipping place, in view of which, the local Government felt unable to effect its repair.

While its use was greatly required for shipment of produce raised in the district, and to import coal, lumber, general merchandise, etc., an appropriation of $5,000 was made during the session of Parliament 1911-12; as, however, only 5/12 of that vote was only available, nothing was done; the amount of $5,000 was revoted last session, and the work was to be done by day labour. After a month, however, it being found that materials could not be procured at prices that could be approved, and for other reasons, it was desirable that the work be best done under contract. Tenders were called for and a contract entered into February 5, 1913, with the Annandale Lumber Company, for the repair and reconstruction required of the structure, for the bulk sum of $3,993.

SUMMERSIDE.

*Dredging.*

Summerside harbour is on the southern side of the Island, and next in importance to that of Charlottetown as a shipping place, the town of Summerside as well, with a population of about 3,500 inhabitants, is next to Charlottetown as a business centre, and is one of the principal stations of the P. E. Island railway. For improvement of the harbour, both as to protection and approach, expenditures have at different times been made by the department, as described in departmental reports of 1908-9-10-11. It being desired to straighten the course into the harbour, a contract was entered into with the Dominion Dredging Co., Ltd., for the removal of what is known as the 'North Shoal' to 18 feet at low water spring tides, having an average length of 1,800 feet, by a width of 350, the depth of cut being 5 feet. Work commenced May 13 with the dredge *Delver*, and carried on almost continuously till September 11 when it was completed; 143,629.3 cubic yards, scow measurement, of sand, mud and hard clay, were removed, costing 35 cents per yard, contract price, or $50,270.26. An extension to the contract was authorized October 7 for dredging a shoal to give better approach to the Queen's wharf; this work was commenced October 10, and completed Novemeber 11, requiring the removal of 49,998.1 cubic yards at 30 cents per yard, or $14,999.43. The dredge *Pownal* was employed, May 29 to June 6, forming a shipping berth on east side of Queen's wharf; 1,307 cubic yards of mud and brick clay, scow measurement, were removed, giving a berth 150 feet in length and 40 feet in width, carrying from 10 to 6 feet at low water spring tides.

TIGNISH.

Tignish harbour is on the northeast coast of the Island, about eight miles south of North cape, being situated at the mouth of the Tignish river, a small stream there entering the Gulf of St. Lawrence. Formation of a harbour was first commenced by the provincial Government in 1868, and has since Confederation been continued by the Dominion Government, as described in departmental reports of 1899-1900 and 1908-9-10-11-12, until now consisting of piers or breakwaters on either side of the river's entrance and inwardly, respectively, 1,500 feet long on the south side and 1,700 feet long on the north side; besides which beach protection works, extending from the breakwaters over the low sandy beaches for the purpose of making these up and preserving the position of the channel.

Of late years, the outer end of the north breakwater having become much damaged and defective through age, action of the ice, storms and ravages of *teredo*, while other parts of the covering, floor stringers also decayed, and parts of beach protection as well in need of repair; during the past season, reconstruction of the outer block has been effected, the covering, etc., of the outer portions of the northern breakwater for the most part repaired, and beach protection works also put in order, where such attention was most urgent; this work which in all cost $4,000, was commenced July 2 and completed November 30.

TRACADIE.

Tracadie harbour is situated on the north side of the Island about twelve miles east of Rustico harbour, and about six miles by road north of Bedford station on line of the P. E. Island railway, and from Charlottetown, the capital of the province, about fourteen miles. Within the entrance, which has a width of about 900 feet, the harbour has a length of about three miles and width of about a mile, over all of which a depth of 12 feet of water, or better, is carried at low-water, the place being largely used as a fishing station and harbour of refuge. Owing, however, to its entrance being obstructed, generally, by a shifting sand bar, it is often found only available for small vessels and fishing boats, and, in fact, only at times admitting of the latter, although outward and inward of the bar there is a good depth of water.

With the view, if possible, of improving this condition, and so render the place of better service, a contract was entered into August 24, 1910, with Mr. F. D. McDonald, for sum of $24,546 for the construction of a breakwater 1,000 feet long, to extend from the east side of the entrance; materials having been gotten out during the winter, commencement of the work was made June 5, 1911, and continued up to December 1 of that year, when suspended for season, excepting in the matter of delivery of materials, which was continued during part of the winter, construction being resumed May 13 and continued in progress during the remainder of the season, until satisfactorily completed, October 5.

VERNON RIVER.

Vernon River village, Queens county, is situated at the head of navigation of the Vernon river, about two miles above its entrance into Orwell bay, and although only a place of about 200 inhabitants, being surrounded by rich and large agricultural district, for which it is the shipping outlet, it is visited, spring and fall, by large numbers of schooners with and for cargoes, as here also is imported the general merchandise, lumber, coal, etc., used in the district, for which traffic the Dominion Government have both kept in repair the wharf originally built by the provincial Government many years before Confederation, on the south side of the river, and also built one on its north side in 1910.

During the past season, as the old wharf on the south side, owing to age, had become about unserviceable, reconstruction of its entire top portion was effected; the work was commenced May 31 and completed August 31, costing in all, $1,444.34.

WEST POINT.

West Point pier is situated on the north side of Egmont bay and the eastern shore of Northumberland Straits, about four miles from O'Leary station on line of the P. E. Island railway, and about thirty-five miles west, by water, from Summerside.

The wharf was originally one of the P. E. Island piers, control of which was assumed in 1884 by the Dominion Government, but in such bad condition until 1898 as to be of little service until put in good condition by this department, and for the purpose of obtaining better depth of water it was extended 100 feet during 1900-1.

During the past season, as some of the covering, through age, had become defective, repairs were effected November 1 to 10 last at a cost in all of $100, and the work placed in fit condition for traffic.

WOOD ISLANDS.

Wood islands are situated about thirty miles southeasterly from Charlottetown, and fifteen miles west of Cape Bear, being the most southerly part of Prince Edward Island. Originally two small islands, they are now connected with the mainland, also with each other,, by small beaches, a sand spit as well extending out from the shore

to within about 300 feet of the eastern island. To form a small harbour at the place, works were commenced by the provincial Government in 1859 and have since been continued by the Dominion, until now they consist of two breakwaters, the northern one extending from the point of the sand spit on the mainland, and the other, or southern one, from the end of the northern island, the former being 2,525 feet long, and the latter now 1,090 feet, 100 feet having been added to it during the past season, the work being commenced on the 1st of June and satisfactorily completed August 23. The work, which is 100 feet long by 40 feet wide, averaging 15 feet in height, is close-faced solid timbered work, full ballasted, floor stringered and planked over, its outer corners being protected with iron plating.

## NEW BRUNSWICK.

### ALBERT.

Albert is situated on the Shepody, a tidal river with a strong current, practically dry at low water, discharging into the bay of Fundy. Albert is the terminus of the Salisbury and Harvey railway, and is distant forty-five miles from Salisbury, the junction with the Intercolonial railway.

On the 6th of January, 1913, a contract was let for the construction of a wharf and a bed for vessels, for the accommodation of steamer and schooner traffic. By the end of the fiscal year 1912-13, the work had not been begun.

### ANDERSON'S HOLLOW.

Anderson's Hollow, Albert County, is in Salisbury bay, near the upper end of the bay of Fundy. The work is a combined breakwater and wharf, 602 feet in total length, and 25 feet in width on top. There is a depth of 17 feet at high water at the outer end, which is dry at low water.

During 1912-13, repairs and renewals were made to the wharf, consisting of 4 cross-ties, 5 stringers, 56 pieces of covering, 1 mooring post, 4 fenders and 81 lineal feet of cap timber. A quantity of timber and iron were procured for further repairs next season.

Work was begun February 15, ceased March 31, 1913, and was carried on almost continuously. Expenditure for the fiscal year, 1912-13, was $646.24.

### BAKER LAKE.

The wharf commenced last year at this place was completed, with the exception of laying about one-half the flooring. It has a pier-head 20 feet wide and approximately 120 feet long with an approach 8 feet wide and approximately 40 feet long.

This work was commenced on August 30 and suspended on September 18, 1912. The total expenditure for the fiscal year ending March 31, 1913, amounted to $550.64.

### BATHURST.

#### *Dredging.*

Dredging was carried on during the season of 1912 over a strip, 1,700 feet long and 200 feet wide, to a depth of 14 to 18 feet at L.W.O.S.T., and a cut 600 feet long, begun last year, was widened from about 50 to 75 feet to the full width of 200 feet, with about the same depth. The work now extends over a length of about 3,400 feet, and width of 200 feet.

In rough weather, the dredge worked inside the harbour on the Ripple bar and Seal bar, where about 11 loads of spoil were removed.

The object is to deepen the channel through the bar at the harbour entrance to 25 feet at L.W.O.S.T., and continue this depth to the head of the harbour. Dimensions of completed work: Total length, 5⅓ miles, of which 1·7 miles are outside the harbour, in a cut 200 feet wide, except at the curves, where it is widened to 300 feet with side slopes of 2 to 1.

A total of 118,501 cubic yards, barge measurement, of sand, clay and cemented sand, were removed during the year, of which 4,943 cubic yards were removed from the Seal and Ripple bars inside the harbour. Period of operation: May 23, 27-29, June 4-November 11, 21-26.

BAY DU VIN.

Bay du Vin, Northumberland county, lies on the south side of Miramichi bay, about twenty miles east of Chatham.

On the 28th to 30th October the covering of the outer end of the wharf was repaired, 2,955 feet b.m. of 3-inch deals being used to replace worn and decayed planks.

The expenditure was $49.43.

BLACK RIVER.

The construction of a wharf, begun in 1911, at the highway bridge at Black river, Kent county, about one mile north of Buctouche, was continued during 1912.

The pier-head, 30 by 30 feet, partly built last year, was enlarged to 50·8 by 52·5 feet, and completed, and stringers and covering were laid on the 15 by 20 feet span between the shore block, built last year, and the pier-head.

Work was in progress between the 27th and 29th June; 1st-4th, 11th-13th, 17th-20th, 27th-31st July; 1st-3rd, 24th-30th August, 15th-25th October, and 6th-9th November.

The expenditure for the fiscal year was $994.50.

*Dredging.*

Black river is a small stream entering Buctouche harbour one mile north of Buctouche.

During February and March, 1913, the cut 10 feet wide, made in March, 1912, was widened to 20 feet for a length of 470 feet, and extended 200 feet for a width of 12 feet. The depth reached was 4 feet at L.W.O.S.T.

The object is to enable boats to reach the new wharf at all times of tide, and to benefit the smelt fishing in the river.

Dimensions of completed work: A channel, with four feet at low water, or eight feet at high water, ordinary spring tides, in a cut 970 feet long and 20 feet wide, widened to 40 feet in front of and near the wharf for a length of 185 feet; 310 feet of the cut still requires to be widened to 20 feet.

About 630 cubic yards, place measurement, of heavy black mud and shells were removed.

The work was done by day labour; two mud diggers were employed from February 19 to March 15. Cost, $446.10.

BLACK RIVER.

At Black river, a small cove in the Bay of Fundy, twelve miles east of St. John, where spring tides rise about 25 feet, a wharf of square cribwork, 155 feet long, 27 feet wide and 30 feet in extreme height, was built by the department in 1879, for the use of coasting vessels.

During 1912-13, the top of the wharf was removed to a depth of 10 feet for 90 feet of its length, and to a depth of 6 feet for 75 feet of its length, and rebuilt.

Forty-two new fenders were placed on the work. The work was completed, with the exception of a small portion of the covering, 9 fenders and the placing of a ladder and steps.

Work was begun August 1, 1912; ceased March 31, 1913, and was carried on almost continuously.

Expenditure during the fiscal year, 1912-13, was $4,006.57.

BUCTOUCHE BEACH.

Buctouche beach, Kent county, six to seven miles long, separates Buctouche harbour from the Northumberland Strait. The harbour entrance is at the southern end of the beach. At the northern end it is proposed to cut a channel through the beach to give a short passage from the harbour to the fishing grounds, and to provide a shelter for the boats on the outer shore. Breakwaters and breastworks have been constructed on each side of the proposed canal which will be about 950 feet long at high-water level and about 40 feet wide.

Work was in progress between August 12 and 31, October 14 and 31, and November 20 to 23, 1912, and consisted of building a breastwork of pickets and brush, 564 feet long, 4 feet high and 2 feet wide, parallel to and 32 feet from the pile breastworks on the north side of the canal, to retain the sand and prevent its drifting into the canal; filling the pile breastworks with seaweed and brush for about 50 feet, and close-piling their outer face with 3-inch plank, 11 to 14 feet long, for a length of 230 feet; building a pile-driver and a scow, 30 by 12 feet, and making small repairs.

The expenditure for the fiscal year was $902.25.

*Dredging.*

A cut, 400 feet long, by 20 feet wide, dredged in 1911, was widened to 40 feet and continued to a total length of 1,800 feet for the full width. Towards the end of the season of 1912, the bank of sand beyond the end of the cut was levelled down by a storm filling the last 200 feet of the cut.

The object is to cut a channel through the northerly end of Buctouche bar near the connection of the latter with the mainland, and six miles from the southern end at the main entrance to Buctouche harbour. This is intended to shorten the distance to the fishing grounds by about 11 to 14 miles; also to give a harbour for the fishing boats of the settlement on the exposed coast to the northward of the canal.

The dimensions of the completed work will be: length, about 1,950 feet; width, about 40 feet, and depth, 3 feet at low water or 8 feet at high water, ordinary spring tides.

A total of 27,423·6 cubic yards, barge measurement, of sand have been removed from the cut by dredging, of which 25,690·1 cubic yards were removed during the season of 1912. Of the latter amount, 7,345 cubic yards were overcast and afterwards removed by scrapers or re-dredged.

The cost was 36 cents per cubic yard, and the work was done May 9 to June 1, June 14 to August 17, August 23 to November 21.

CAMPBELLTON.

Campbellton, Restigouche county, is situated on the southern shore of the Restigouche river, 16 miles above Dalhousie and 6 miles below the head of the tide. It is a divisional point on the International railway. It is an important deal shipping port and has a rapidly growing population.

*Deep Water Wharfs.*

During the fiscal year 1912-13, a section of the deep-water wharfs, built in 1904-6, was repaired by laying five new stringers of different thicknesses to strengthen and

level the floor, and covering them with new 4-inch plank in a total length of 312 feet and for the width of the wharf, 33 feet between cap timbers. Four new stringers and new flooring were laid and ten 50-foot piles driven to repair a section on the outer face damaged by a steamer, and close-piles were driven in a length of 30 feet on the inner side near the shore approach to complete the pile driving in progress during the previous winter. An area, 70 by 12 feet, next the approach, was filled about 2 feet deep with ballast, surfaced with gravel and ashes and a number of holes in the gravelled portion of the wharf were filled with ballast, etc.

*Market Wharf.*

On the Market wharf, the interior of the pier-head was filled and surfaced with earth, brush, old railway ties, ballast and gravel, over 700 loads of earth and gravel being used, and the westerly face was covered with 32 piles, 15 to 20 feet long, and, in a further 15 feet, with 4-inch planks, 3½ to 8 feet long. The approach, 390 feet long, was raised to level of the pier-head, longitudinals being laid for 62 feet, cross-ties for about 200 feet, and extra cap timbers along the sides for the full length on the easterly side; and the interior was levelled with ballast, earth and gravel. A section of the easterly face, 75 feet long, burnt in the Campbellton fire, was repaired. Four new ladders were placed.

FERRY WHARF.

Small repairs were made on the wharfs at the sides of the Ferry slip, which were damaged in the Campbellton fire, to make a safe approach for the ferry steamer. The repairs consisted of building a small cribwork on the easterly side three to four tiers high and about 80 feet long, and placing fender posts outside it and along the westerly side; some planks were renewed in the ferry slip itself.

A new pile-driver frame was built.

Work was in progress between the 26th April and the 17th July, on the 29th July, 17th to 27th August, 9th to 28th September, 1st to 15th October and 25th November to 31st December.

The expenditure for the fiscal year was $3,154.96 of which $1,998.96 was for the deep water wharfs, about $1,050 for the Market wharf, and $106 for the Ferry wharf.

*Dredging—Ship Channel.*

Work done, 1912-13, consisted of dredging a length of about 300 feet, 3,000 feet below the Campbellton deep-water wharfs and on the line of the Campbellton lights, to a depth of about 18 feet at low water, and cutting off a point in the channel about 200 feet long, 600 feet farther down stream.

The object was to improve the ship channel to allow vessels to take full loads at the Campbellton wharfs.

Dimensions of completed work: The ship channel, on the range of the Campbellton lights, is 8,500 feet long and is being dredged to 16 feet at low water, or 26 feet at H.W.O.S.T., in a cut 100 feet wide. A section, 2,800 feet long, still requires dredging, and on account of the rapid deposit of silt, dredging is necessary in the channel practically every year.

Material removed: The material removed during 1912-13, amounted to 18,968 cubic yards, barge measurement.

The dredge *St. Lawrence* was at work on the ship channel between June 15 and 29; September 10 to 21, and September 30 to October 5.

*Dredging—Shives' Wharf.*

Berths about 450 feet in total length and 75 to 100 feet wide were dredged to from 8 to 15 feet at low water along the front of the Shives' and Town wharfs,

extending from the Ferry slip to about 100 feet below the Town wharf, and the Ferry slip, with an area of about 60 by 80 feet, was deepened from 1 to 3 feet. The range of spring tides is 10 feet.

The object was to improve the slip for the ferry running between Campbellton and Cross Point (Quebec), which formerly grounded and was delayed at spring low tides; to provide berths for coal vessels in front of the Shives' and Town wharfs and in front of a proposed extension of the latter, where formerly the depths were only 4 to 7 feet at low water, and for West India schooners, tugs, etc., which use these wharfs.

Material removed: The quantity removed by the *Grey Loggie* was 6,626·76 cubic yards, barge measurement, of which, approximately, 2,643 cubic yards were removed at the Town wharf; 3,120 at the Shives' wharf, and 864 at the Ferry slip, but on account of the hard nature of the material, this dredge could not complete the work. The *St. Lawrence, Dredge No. 2* then removed 7,510 cubic yards, barge measurement, in front of the Town and Shives' wharfs, dredging to depths of about 15 feet at which depth the larger coal vessels can lie afloat at low tide. At this depth, the dredge was able to work continuously saving the delay which would have occurred at low water when the dredge would have been aground if the depth of 8 feet called for under the contract had been adhered to.

The cost of contract work was 40 cents per cubic yard, barge measurement, and work was done from June 10 to July 3.

Dredge *No. 2,* August 14-27, September 24-28.

*Dredging Market Wharf.*

A berth along the outer face of the wharf was dredged to about 9 feet at low water or 19 feet at high water, ordinary spring tides, for a length of about 200 feet and width of about 40 feet, or out to the 9-foot contour, and along the lower side of the pier-head, a berth about 80 feet long and 50 feet wide was dredged to 6 feet at low water, so as to provide suitable berths for coal schooners, tugs and small vessels generally, which frequent the wharf.

There were 1,255·35 cubic yards, barge measurement, of mud, gravel, &c., removed at a cost of 40 cents per cubic yard, barge measurement.

Work done between May 29 to June 10, 1912.

*Dredging Deep Water Wharfs.*

Work done, 1912-13, consisted of dredging a berth 225 feet long and 100 feet wide to about 18 feet at low water, where the previous depth was about 12 feet, so as to give a safe berth and approach in front of this section of the wharfs which is used by the steamer *Canada* on the Gaspé route, and by dredges, tugs, etc.

Material removed, during 1912-13, amounted to 4,848 cubic yards, barge measurement.

CAPE BALD.

Cape Bald, Westmorland county, is a farming and fishing district on the south shore of the Northumberland Strait, about fourteen miles west of Shediac.

The construction of a breakwater at Cape Bald was begun on the 6th June, 1909, under contract with Mr. E. A. Wallberg, and the work, which consists of an approach 646 feet long and a pier-head 100·4 feet long on the outer faces, was practically completed at the end of 1910.

After the forms were removed, a number of holes and imperfections appeared in the concrete faces of the breakwater, and the scouring of the bottom by waves left vacancies under it.

The repair of the faces was in progress between the 27th February and the 6th April, 1912, along the outer 200 feet of the outer faces, when about 110 cubic yards of

concrete were mixed and placed under water. Work was resumed on the 10th June and continued up to the 30th September, and again on the 15th and between the 23rd and 29th October, when the remaining 168 lineal feet of a re-enforced concrete wave break, 1 to 2 feet thick and 4½ feet high, was constructed along the outside of the approach. The covering in a length of 132 feet along the outside of the approach, where it had settled from 3 to 7 inches, was raised and levelled. A roadway to the shore, 18 feet long, 15 feet wide and 7 feet deep was excavated in the sandstone cliffs inside the breakwater, and general repairs were made on the concrete faces.

The expenditure for the fiscal year amounted to $4,336.65.

### CAPE TORMENTINE.

Cape Tormentine, Westmorland county, is the terminus of the New Brunswick and Prince Edward Island railway and the nearest point of communication between Prince Edward Island and the mainland which are there nine miles apart.

Between 1880 and 1892, a breakwater pier, 3,300 feet in total length was constructed by the department to assist communication with the Island. The pier also affords a harbour from which large lumber shipments are made to over-sea ports.

During the fiscal year 1912-13, face timbers, damaged by a storm on the north side of the approach, were renewed, three tiers being laid for 74 feet and two for 99 feet. The hardwood sheathing was replaced along 14 feet of the outer face of the pier-head, and four breaks in the covering were repaired. The windows and doors of the freight sheds and the landing stage were repaired, and a platform was built for transporting freight from the cars to the shed. A total of 776·6 cubic yards, or 101 carloads, of large stone blocks were received and placed, with the exception of a few carloads unloaded on the breakwater, in a length of 252 feet along the outside of the pier-head and for 680 feet along the outside of the approach for the extension of the stone slopes. Three carloads were also placed along the inner side of the approach.

The woodwork of the car, used to support the donkey engine and derrick, was rebuilt, and the engine and derrick overhauled and replaced in the car, and a new trolley was built.

Work was in progress between the 11th June and the 13th July, on the 20th July, and between the 12th and 20th August.

### CARAQUET.

Some 1,250 feet of channel were dredged 100 to 200 feet wide, and 700 feet 100 feet wide (widening last year's cut to about 150 feet) to a depth of 18 feet and over. A small amount of dredging was also done in the berths at the deep-water wharf, and several small areas in the approach were deepened about one foot.

The object was to deepen the berths at the new deep-water wharf to 22 feet at low water, and the approach to the wharf to 19 feet, and a shoal in the channel, about 3½ miles below the wharf, to 18 feet at low water, or 24 feet at high water, ordinary spring tides, to enable the wharf to be used for export of lumber in steamers.

The total length of the cut in the channel is 3,850 feet, and 150 to 200 feet in width. The berths are 300 by 60 feet on each side of the pier-head, and the approach covers an area about 400 by 600 feet.

There were 27,054·22 cubic yards, barge measurement, of sandy clay removed during the season of 1912. The total amount removed under the contract was 100,005·59 cubic yards, of which 23,735 cubic yards were removed below grade and outside the lines, at a cost of 30 cents per cubic yard, barge measurement.

Work was done between August 13 to October 19.

CASTALIA.

Castalia, a small fishing settlement on Grand Manan island, a part of the county of Charlotte, is three miles from the breakwater at North Head. Spring tides rise 22½ feet.

In 1912-13, a breakwater was built, by contract, for the purpose of sheltering fishing boats. The work consists of square cribwork, 123 feet long on the centre line, measured on the top, and 25 feet wide, sheathed and surmounted by a break, 6 tiers high, on the seaward side.

Work was begun June 19, 1912, completed August 31, 1912, and was carried on continuously.

Expenditure for the fiscal year, 1912-13, was $5,002.50.

CHANCE HARBOUR.

Chance Harbour is a cove, one-half mile wide at the mouth, about 350 yards broad at the head, and three-quarters of a mile long. The place is situated nineteen miles west of St. John. At Chance harbour there is a breakwater (for a boat landing) of square timber, 187 feet long, 23 feet wide and 18 feet high at the outer end. Spring tides rise 24½ feet.

During 1912-13, the old work was raised 3 feet and fully ballasted for a distance of 106 feet. A new crib, 41 feet by 17 feet, of close-face cribwork, to form a pier-head, has been built and ballasted to within 4 tiers of the top.

Work was begun August 29, 1912, ceased November 6, 1912, and was carried on almost continuously.

Expenditure for fiscal year 1912-13, was $3,250.01.

CHAPMAN'S FARM—SISSON BROOK.

A timber breakwater, ballasted with rock, was constructed at this place, 160 feet long, 18 feet wide at the lower end, and 5½ feet high.

This work was commenced on September 14, 1912, and completed on the 27th of the same month.

The total expenditure for the fiscal year ending March 31, 1913, amounted to $250.55.

CHATHAM.

Chatham, Northumberland county, lies on the southern shore of the Miramichi river, about twenty miles above its mouth. It has a population of about 5,000, and is one of the chief deal ports of New Brunswick.

During the fiscal year 1912-13, a cribwork block, 103 feet long, 12 feet wide and 20 feet high at the outer and 4 feet at the inner end, was constructed in the dock on the easterly side of the Custom-house wharf, 16 to 17 feet from the latter, to give a safe berth for the departmental inspection boat, and additional berths for small schooners; a shed 50 feet long, 17 feet wide and 12 feet from sills to eaves, was built for a winter shelter for the boats, also launchways and a cradle.

Work was in progress between August 14 and October 25, also for a few days in May and June, when the Custom-house wharf was cleared of rubbish, and some trees were planted.

The expenditure for the fiscal year was $1,088.49.

*Dredging.*

The work done 1912-13 consisted of dredging the berths along the lower 600 feet of the wharf to about 22 feet at low water, for a width of 30 to 60 feet, i.e., out to about the 21-foot contour.

The object was to give deep-water berths where steamers may lie afloat and take full cargoes, chiefly of lumber brought to the wharf over the Intercolonial railway.

A total of 3,072·5 cubic yards, place measurement, of mud, gravel and mill refuse, figured to 21 feet, where this depth was reached. The total quantity removed, measured in the barges, was 3,564·81 cubic yards, at a cost of 30 cents per cubic yard, place measurement.

Period of operations: *Hayward,* September 23 to 25, 1912; *Invader,* September 23 and 24, 1912.

A berth, 446 feet long, in front of the Snowball wharf was dredged to 23 feet at low water, the width of dredging necessary being 70 to 100 feet to reach the 23-foot contour, and approaches extending diagonally about 75 feet above and 333 feet below the wharf were dredged out to the same contour. The length of dredging along the inside of berth and approaches was about 715 feet; along the 23-foot contour, about 915 feet.

The object was to give a 23-foot berth for shipment of about 7,000,000 feet b.m. annually of deals, so that vessels may take full cargo.

There were 10,123·3 cubic yards, place measurement, of mud, gravel and silt, figured to subgrade where this depth was reached. The total quantity removed measured in the scows was 15,043·17 cubic yards, at a cost of 30 cents per cubic yard, place measurement.

Period of operations: *Invader,* September 25 to October 3; *Hayward,* October 16 to 19.

An area, 220 feet long and 20 to 50 feet wide, was deepened to about 20 feet at low water, to give berth for steamers with imports of salt, etc.

A total of 673 cubic yards, place measurement, of mud, gravel and ballast were removed, figured to subgrade where this depth was reached. The total quantity removed in scows was 1,036·55 cubic yards, at a cost of 30 cents per cubic yard, place measurement, and work was done by *Invader,* September 24, *Hayward* October 14, 15, and 16.

An area, 60 feet square, was dredged to a depth of about 10 feet at low water. Some dredging was also done in preparing foundation and berths for a new wharf.

The object was to give extra berths and more room for small schooners, etc., frequenting the public wharf and lying-up in dock for the winter.

Some 210 cubic yards, place measurement, of ballast, mud, and old cribwork were removed by the *Hayward,* figured to subgrade where this depth was reached. The total quantity removed in scows was 415·03 cubic yards; also 129 cubic yards, barge measurement, of gravel, etc., and 17 sunken timbers were removed by the *Peter England* for the foundation of a new wharf.

Work was done on September 25 and 26 with *Hayward,* August 15 to 19 with *Peter England.*

CHIPMAN.

*Dredging.*

Chipman is situated on the eastern shore of Salmon river in Queens county.

On May 8, the dredge *New Brunswick No. 2,* of the New Brunswick Construction Company, commenced cleaning up the basin and entrance to the wharf to a depth of 9 feet below low water, and completed the same on July 12, 12,399·5 cubic yards, scow measurement, of sand, bark and sticks, having been removed at 19½ cents per cubic yard.

The total expenditure, including inspection, for the fiscal year ending March 31, 1913, amountd to $2,747.91.

CHOCKFISH.

Chockfish, Kent county, is a farming and fishing settlement on the Northumberland Strait about midway between Richibucto and Buctouche.

The works consist of breakwaters at each side of the present river mouth, and breastworks and a dam to close the original winding and unstable channel. Through their construction, the depth of water has increased and a permanent entrance has been provided to a safe and convenient harbour.

Between the 26th August and the 5th October, and between the 22nd and 31st October, 1912, work was in progress on the Chockfish breakwaters. The stone was removed from the south breakwater, about 451 feet long, and the interior was filled with brush about 6 feet deep, over which the stone was replaced. Outside the north breakwater, points where the sand had been scoured away from the breakwater were filled with brush about 3 to 5 feet deep; two holes, 32 and 27 feet long and 15 and 8 feet wide were thus filled, and several holes in a length of 60 feet; 21 pickets were driven to retain the brush. A stake and brush fence, 281 feet long, was built along the top of the shore section of the north breakwater to prevent the sand, which here completely covered the breakwater, from drifting into the harbour.

The expenditure for the fiscal year was $591.63.

COURTENAY BAY.

On March 25th last, a contract was entered into with Messrs. Norton Griffiths & Co., Ltd., Canada, in consideration of an amount of $7,500,000 for the construction of a breakwater of rubble stone, cribwork and concrete; two landing piers, with necessary back filling; dredging of a channel leading from the main harbour entrance into Courtenay bay, and dredging of a turning basin inside the breakwater.

The work done by this company, during the past year, has been limited to the rubble mound construction in the breakwater, and a small amount of dredging.

To the end of the fiscal year, 213,056 cubic yards of rubble, 3,464¼ cubic yards cover-stone have been placed in the breakwater. In addition to this, one groyne is about one-half completed, and a start has been made on the second. The work, as built, is 1,925 feet in length, the bottom width averages 120 feet, and the top 32 feet. The top is 4 feet below contract grade.

Dredging in Courtenay bay channel amounted to 4,711·8 cubic yards. This work was suspended shortly after commencement, owing to rough weather and breakages of the plant, which necessitated laying up the machinery for permanent repairs.

The amount of work certified to, and for which estimates have been returned, in connection with this work, up to the end of March is $551,839.92.

DALHOUSIE.

Dalhousie, Restigouche county, lies at the head of the Baie des Chaleurs and at the mouth of the Restigouche river, sixteen miles below Campbellton. It has a population of 1,650, and is an important deal port.

On the 9th September, 1911, a contract was entered into with Mr. T. P. Charleson for the construction of a breakwater along the easterly side of the Ferry basin, between the mainland and Douglas island. The contract price is $23,440. The total length of the breakwater will be 1,000 feet, and the width on top 27 feet.

Work began on the 14th October, and at the end of the fiscal year, 1911-12, the approach at the mainland shore, 100 feet long, consisting of a stone embankment, was ready to receive the timber superstructure, cross-ties, stringers and covering. About 400 piles were driven in the next, or pile-work section, 750 feet long. The eastern or island approach, or cribwork, was built up ready to receive the stringers. About 402 cubic yards of large stone were placed to form a talus outside the pile-work.

Work was continued during 1912, and on the 8th January, 1913, when it closed down for the winter, there was required the spiking of part of the covering, some painting with carbolineum, and other small matters to complete the work.

The expenditure for the fiscal year was $16,002.

The expenditure to date on the new breakwater has, including inspection and purchase of old breakwater property, been $23,953.63.

*Dredging.*

Work done 1912-13, consists of completing contract for removal of rock over ledge at the entrance of the Ferry basin, 140 feet in average length and about 90 feet wide, the mud being first removed; (b and c) dredging between the Ferry wharf and the new breakwater to a depth of 15 feet at L.W.O.S.T., a distance of 450 feet along the breakwater and about 200 feet along the Ferry wharf, so as to give safe passage for vessels over the rock ledge and to give berths for schooners, tugs, etc., at the Ferry wharf and breakwater, and a turning basin; also a safe and convenient winter storage area for vessels.

Dimensions of completed work: (a) 140 feet long and 90 feet wide, with a depth of 18 feet at L.W.O.S.T.; (b and c), 400 feet long along the Ferry wharf and 650 feet long along the breakwater, average width 180 feet, depth 15 feet at L.W.O.S.T. Range of tides, 10 feet.

Material removed: (a) 3,998·05 cubic yards rock, and 2,778·5 cubic yards mud; (b) 18,271·15 cubic yards mud, and 2 yards rock; (c) 27,762 cubic yards mud, at a cost of 29¼ cents per cubic yard for mud in (a) and (b), 29½ cents for mud in (c), and $5 per cubic yard for rock, $34,346.47.

Perior of operations: *Grey Loggie,* 14th May to 23rd May, 4th July to 26th November; drill scow, 3rd to 22nd June, 27th June to 6th November.

DAY'S LANDING.

*Dredging.*

Day's Landing is on the eastern shore of the St. John river, in Kings county, just between Carter's and Hardings.

This work was for the purpose of cleaning up the basin and entrance to the wharf to a depth of 11 feet below low water. The dredge *New Brunswick No. 2* commenced work on July 22 and completed the same on August 14, after having removed 3,113 cubic yards, scow measurement, of sand, clay and gravel. This work was performed at 35 cents per cubic yard, scow measurement.

The total expenditure, including inspection, during the fiscal year ending March 31, 1913, amounted to $1,158.55.

DIPPER HARBOUR.

Dipper Harbour is a fishing station of the Bay of Fundy, twenty miles west of St. John. Spring tides rise 24 feet. In 1906, a breakwater, 335 feet long, from 28 to 38 feet in width, and 43 feet high at the outer end, was built to give shelter to fishing boats.

On the 22nd of December, 1910, a contract was let for the construction of an extension to the breakwater of 100 feet. The work was begun in 1911.

During 1912-13, the construction of the extension was completed, and the gap between the pier-head and the old work, caused by the storms on January 9, 1912, was filled in a satisfactory manner.

The work was resumed July 5, 1912, completed August 28, 1912, and was carried on continuously.

Expenditure for the fiscal year 1912-13 is $7,965.10.

*Dredging.*

During 1912-13, the dredging of the channel and basins, begun in 1911-12, was satisfactorily completed by contractor J. S. Gregory's dredge *Asp.*. The work con-

sisted in the completion of an entrance channel to the harbour, 600 feet long and 100 feet wide, to 13 feet below low water, together with a basin approximately 350 feet by 200 feet, to 13 feet below low water, and a second basin, 360 feet long by 100 feet wide, to 8 feet at low water.

The material removed was composed of mud, sand and gravel.

The quantity removed this season amounted to 7,505·8 cubic yards, scow measurement.

Work was begun on August 22, 1912, and completed on October 5, 1912.

DORCHESTER.

Dorchester, Westmorland county, is the shire town of the county and a station on the Intercolonial railway, twenty-seven miles southeast of Moncton.

In 1909, this department constructed a wharf 202 by 52 feet on the Memramcook river at Dorchester. The old railway wharf adjoining, with a frontage of 200 feet was taken over from the Department of Railways and Canals in 1911.

During the fiscal year 1912-13, the accumulation of mud on the bed along the front of the new wharf, 200 feet long, was twice removed, the depth being 2 to 3 feet next the wharf, and a cribwork 6 feet high was constructed along the outside of the lower 75 feet of the bed. Brush was placed over the bed at the lower end to prevent scour.

In front of the adjoining old railway wharf, 200 feet long, an old timber bed formed of piles and cross-ties was removed and the mud excavated along the inside then the bed was levelled with brush and mud to form a safe berth for schooners. At the upper end of the railway wharf, a bed for scows was constructed, 57 feet long by 24 feet wide, consisting of cribwork 6 feet high at the outer end, the inner end being excavated in the clay bank.

Work was in progress between the 18th April and 22nd May, 3rd to 15th June, 22nd June to 5th July, 2nd, 3rd, 7th, 9th, 19th to 24th, and 30th and 31st August, and from the 1st to 6th November.

The expenditure for the fiscal year was $1,038.02.

DOUGLASTOWN.

Douglastown is on the north shore of the Miramichi river, about one and a half miles above Chatham.

*Dredging.*

Work done 1912-13, consisted of dredging an area 300 feet long at the face of the wharf and 550 feet long on the original 22-foot contour line, and 100 to 150 feet wide to 22 feet at low water, so as to provide a berth in which steamers, etc., can lie afloat and take full loads; 3,518·15 cubic yards mud, place measurement, figured to 23 feet at low water where this depth was reached. The total quantity removed, measured in the scows, was 6,436·05 cubic yards.

DUNHAM'S.

*Dredging.*

Dunham's is situated on the eastern shore of the St. John river, directly opposite Oak point, in Kings county.

The dredge *Beacon Bar* worked two days, November 25 and 26, and removed 670·7 cubic yards, scow measurement, of class 'B' material, but did not complete the dredging required in connection with cleaning up the basin and entrance to the wharf to a depth of 9 feet below low water.

FAIRHAVEN.

Fairhaven, Deer island (a part of the county of Charlotte), a sheltered fishing settlement and a port of landing for mails, is situated seven miles from St. Andrews. At this place, the provincial Government built some years ago, a wharf, 190 feet long, of trestle work.

On the 28th of November, 1912, a contract was let for the construction of a pier-head of round cribwork, 32 feet by 50 feet, measured on the top, to be connected with the present wharf by an 8-foot span. The outer end of the present wharf is to be widened. By the end of the fiscal year, 1912-13, the work had not been begun.

FREDERICTON.

Fredericton is situated on the western shore of the St. John river, in York county, eighty-four miles by water from St. John.

On August 26, 1912, contractors Charles and Robert Forbes commenced work on the construction of a concrete and cribwork high-water wharf at Fredericton. Three cribs have been constructed, one of which has been sunk in position and ballasted. The site for these cribs has been dredged and the upper portion of the work has been excavated. A portion of the old low-water wharf has been removed.

Owing to the unprecedented height of the river at Fredericton, this season, very little work was performed after September. Work was suspended on the 21st December, 1912.

The total expenditure, for the fiscal year ending March 31, 1913, amounted to $10,081.65.

*Dredging.*

The channel of the river was to be cleaned up to a depth of 11 feet below low water. Work was commenced on July 15, and suspended, owing to the close of navigation, on November 7.

Five dredges were employed, off and on, on this work during the season, namely, the *Keta, Asp, Tanta Wanta, New Brunswick No.* 1 and *Provincial No.* 1; 173,656·5 cubic yards, scow measurement, of clay, sand and gravel were removed.

The total expenditure, including inspection, for the fiscal year ending 31st March, 1913, amounted to $42,442.66.

GARDNER'S CREEK.

Gardner's creek enters the Bay of Fundy some twenty miles east of St. John harbour. Spring tides rise thirty feet. The combined breakwater and wharf, 217 feet long, and 24½ feet wide, is built of open-faced, square cribwork, sheathed on the north and east sides. The head stands in a depth of 21 feet at high water, ordinary spring tides.

During 1912-13, the stringers, covering, cap, fenders, mooring posts and break were renewed in a most satisfactory manner.

Work was begun, May 16, 1912, completed July 12, 1912, and carried on continuously.

Expenditure for fiscal year, 1912-13, was $835.98.

GAUTREAU VILLAGE.

Gautreau, Westmorland county, is a village on the north shore of the Petitcodiac river, about thirteen miles below Moncton. A public wharf was constructed here in 1909 and 1910.

On the 3rd and 4th and between the 14th and 26th June, 1912, a bed for scows was constructed at the lower side of the wharf consisting of cribwork twenty-five feet

wide, fourteen feet long and about ten feet high on the outside, and the mud behind the cribwork was excavated to form a level bed. Along the front of the wharf, the mud was removed for a length of sixty feet and width of about twenty feet and to a depth of five feet next the wharf, to give a level bed for schooners, etc.

The cost of the work was $181.25.

GOOSE CREEK.

Goose creek is situated twenty-two miles east of Quaco, on the north shore of the Bay of Fundy. A beach about 100 feet in width, at high water, and 1,600 feet long, shelters a pond 1,800 feet by 900 feet, dry at low water. At the eastern end of the beach an entrance with 15 feet at high water gives access to the pond.

During 1912-13, a cribwork protection wall, 145 feet long and 14 feet wide, was built and ballasted. The work is 7 feet high along the front and 6 feet high in the rear. Brush and ballast were placed to protect the old work. Two groynes, 66 and 80 feet long, respectively, have been built of piles, plank and ballast. A shed, 20 feet by 25 feet, was built to house the workmen, as there was not room for them in the lumber camp. In January, 1913, a heavy storm damaged the pile protection for a length of 100 feet, and upset the eastern groyne. The damage to the protection work was repaired, and new walings were placed on the pile protection 230 feet long, and on the west groyne, 80 feet long, to a height of 4 feet.

Work was begun June 21, 1912, ceased March 19, 1913, but was not carried on continuously.

Expenditure for fiscal year 1912-13 was $1,932.40.

GRAND ANSE.

Grand Anse, Gloucester county, a station on the Caraquet railway and a fishing and farming settlement of about 800 inhabitants, is situated on the southern shore of the Baie des Chaleurs, twenty-eight miles northeast of Bathurst. The construction of a breakwater for the protection of the fishing boats was begun here in 1876.

During the fiscal year 1912-13, the construction was continued of a groyne pier to protect the harbour, inside the Grand Anse breakwater, from easterly storms, and catch the littoral drift, which is filling the harbour.

The groyne is 297 feet long, 13 feet wide on top and 7 to 14 feet high, and is built of cribwork sheathed on the outside with hardwood plank. The inner 113 feet was built to a height of 8 to 10 tiers in 1911. The cribwork is complete for the length of 297 feet. The covering and sheathing have been laid over 115 feet, and 66 fenders are in place.

Work was in progress between May 1 and July 20, July, 29-31, and August 28 to September 18.

The expenditure for the fiscal year was $2,298.96.

GRAND FALLS TO AROOSTOOK.

About 262 cubic yards of rock were blasted at the narrows on the upper St. John river, about one-quarter of a mile below the falls.

Work was commenced on July 24 and was completed on August 13, 1912.

The total expenditure for the fiscal year ending March 31, 1913, amounted to $197.90.

GRANDIGUE.

Grandigue, Kent county, is a fishing and farming settlement situated at the northerly end of Shediac harbour, and about seven miles by road northerly from Shediac.

On September 9, 1911, a contract was entered into with Mr. T. P. Charleson for the construction of a wharf at Grandigue. The contract price was $5,895.

Work begun January 15, 1912, and by the end of the fiscal year 1911-12 the crib-work was built complete and filled with ballast, and the stringers and mooring posts were placed.

The wharf was completed on July 31, and consists of a shore block 61·9 feet long by 15 feet wide, six blocks 15 by 20 feet, seven spans of 20 feet, and a pier-head 32 by 30·8 feet. The total length is 352·7 feet. The six blocks are sheathed, and the pier head close-piled with 4-inch creosoted plank.

During May and July, a fence 85 rods long was built along the easterly side of the road to the wharf, and the latter was extended 16 feet about 2 feet high to connect with the shore block. The fence posts were given a coat of carbolineum.

On the 7th, 11th and 14th January, and between the 17th February and the 25th March, work was in progress on the construction of an extension, 60 by 30 feet, to the present wharf, and an 'L,' 15 by 20 feet. The crib was built to a height of from 9 to 12 tiers and ballasted in place.

The expenditure for the fiscal year was $4,967·61, of which $142.05 was expended on the fence, etc., and $1,365.45 on the extension.

### GRAND RIVER.

The channel of the upper St. John river was cleared of all obstructions for a distance of nine miles. Twenty-one boulders were blasted measuring about 28 cubic yards.

Work was commenced November 5, 1912, and was completed on 16th of the same month.

The total expenditure for the fiscal year ending March 31, 1913, amounted to $195.75.

### GRANT'S REEF.

Boulders were blasted at this place measuring thirty-five cubic yards.

The work was commenced on September 19, 1912, and was completed on 25th of the same month.

The total expenditure for the fiscal year ending March 31, 1913, amounted to $92.98.

### GRASSY ISLAND.

#### *Dredging.*

Grassy island is situated in Kings county in the St. John river, directly opposite Oak point on the one side and Dunham's on the other.

The channel of the river was cleaned up to a depth of 11 feet below low water for a width of 75 feet. Dredging was commenced on July 19, 1909, and completed on November 11 of the same year, by the dredge *Asp;* 50,040 cubic yards, scow measurement of clay, sand, gravel and mud were removed.

The total expenditure, including inspection, amounted to $25,320.

### GREAT SALMON RIVER.

Great Salmon river is a small tidal inlet eight miles east of Quaco, and forty-three miles east of St. John. Shipments of lumber are made from this place. Spring tides rise 30 feet. A small harbour, dry at low water, is formed by the projection of a beach from the west side, a narrow opening remaining for an entrance. To keep open this entrance, piers have been built on both sides, 372 and 316 feet long, respectively.

During 1912-13, close-piles have been driven along the entire eastern side and outer end of the western breakwater for a distance of 391 feet, and a break, 40 inches high, supported with knees, has been built along the end and seaward side of the western breakwater for a length of 113 feet.

The work was begun July 8, 1912, completed October 9, 1912, and was carried on almost continuously.

Expenditure for the fiscal year 1912-13 was $2,658.42.

GREEN RIVER—(BELOW EMERSON'S FALLS).

A tow-path was cut at this place for a distance of 22 rods, and boulders and obstructions were removed from the channel of the river for a distance of 11 miles. Thirty-four boulders, 3 to 6 feet in diameter, were blasted.

Work was commenced July 23 and was completed on 30th of the same month.

The total expenditure for the fiscal year ending March 31, 1913, amounted to $146.53.

GREEN RIVER—(ABOVE EMERSON'S FALLS).

The channel of the river, at this place, was cleared of boulders and obstructions for a distance of about eighteen miles. Fifteen boulders were blasted, measuring from 4 to 6 feet in diameter.

Work was commenced on July 15, 1912, and was completed on 27th of the same month.

The total expenditure for the fiscal year ending March 31, 1913, amounted to $150.

GREEN RIVER—(RIGHT HAND BRANCH).

The channel of this river was cleared for a distance of about three miles. Eleven boulders measuring about 30 cubic yards, were blasted.

Work was commenced on September 11, 1912, and was completed on 16th of the same month.

The total expenditure for the fiscal year ending March 31, 1913, amounted to $99,90.

HARVEY BANK.

Harvey bank, on the coast of Chignecto bay, near the town of Albert, is an extension of Dow's wharf, built of round cribwork, 125 feet long and 44 feet wide, including a pier-head, 65 feet by 25 feet. There is a depth of 20 feet at high water at the pier-head.

It is proposed to raise the wharf 2 feet, since some unusually high tides have flooded the work.

During 1912-13, a sum of $2,150 was authorized, but no work was done.

HATFIELD'S POINT.

*Dredging.*

Hatfield's point is on the northern shore of Belleisle bay, in Kings county, near Springfield.

The dredge *Beacon Bar* of the Maritime Dredging and Construction Company worked for two days, November 22 and 23, removing 1350 cubic yards, scow measurement, of mud at 50 cents per cubic yard. This dredging was for the purpose of making a channel and entrance to the mill wharf to a depth of 9 feet below low water. When nearing completion of the work asked for, it was found desirable, in the interest of a large mill which was being erected, to extend the work, this entailing further dredging

to the amount of 13,576 cubic yards, scow measurement. Owing to the close of navigation, it was left in abeyance until the next season.

The total expenditure, including inspection, for the fiscal year ending March 31, 1913, amounted to $681.

HOPEWELL CAPE.

Hopewell cape is situated on the Petitcodiac, seven miles below Hillsborough. The wharf is of round and square cribwork, 460 feet long and from 22 to 35 feet wide, with a pier-head 35 feet by 50 feet. The depth at the outer end is 41 feet at high water, and is dry at low water.

During 1912-13, the stringers and covering of the wharf and trestle approach were renewed, a new railing was placed around the slipway, some fenders and a new ladder were put on, and steps of ironwork were built but were not put in place.

Work was begun July 21, 1912, ceased October 31, 1912, and was carried on almost continuously.

The expenditure for the fiscal year 1912-13 was $2,525.

IROQUOIS RIVER.

The channel of the river, parish St. Jacques, was dug to a depth of three feet for a distance of 180 feet and for a width of 14 feet, and a timber breakwater, ballasted with rock, was constructed, 92 feet long, 6 feet wide and 4 feet high.

Work was commenced on September 23, and was completed on October 5, 1912.

The total expenditure for the fiscal year ending March 31, 1913, amounted to $176.09.

The channel of the river, parish of Madawaska, was cleared of obstructions for about one mile. Forty boulders were removed, 15 of which were blasted, measuring about 50 cubic yards.

Work was commenced on July 24 and was completed on August 17, 1912.

The total expenditure for the fiscal year ending March 31, 1913, amounted to $143.95.

KOUCHIBOUGOUAC.

Kouchibougouac harbour, Kent county, is entered by a narrow passage or gully between long sand beaches, which separate the wide expanse of the harbour from the Northumberland Straits. The entrance is about twelve miles north of Richibucto and eighteen south of Miramichi bay.

Of late years, new gullies have opened up which, by reducing the current in the main entrance, tend to lessen the depth of water at the latter. The work of closing the new gullies and raising the low parts of the beach with breastworks to prevent further breaks began in 1908-9.

Work was in progress between the 28th May and the 22nd August, 1912. A picket and brush breastwork, 925 feet long, was built and brush was placed between pickets previously driven, in a length of 400 feet; 48 piles were driven and about 90,000 cubic feet of brush and 310 cubic yards of stone were used in completing a dam, 539 feet long, begun last year, to close a new opening in the beach.

The expenditure for the fiscal year was $1,999.56.

LAJOIE'S, FRED, EDMUNDSTON.

The breakwater, built at this place last season, was filled with rock amounting to about 40 cords. Work was commenced on September 17 and was completed on October 16, 1912.

The total expenditure for the fiscal year ending March 31, 1913, amounted to $300.

LAMEQUE.

Lameque, Gloucester county, is a point of export for fisheries of Shippigan island to the value of about $75,000 annually, and a landing place, daily during the season, for the steamer of the Gloucester Steam Navigation Company. A wharf was built here by the department in 1900-3.

Between the 3rd and 18th September, 1912, about 29,000 feet b.m. of 2-inch plank was laid over the old flooring of the Lameque wharf, which was becoming unsafe; in widening about 5 to 7 feet, a strip 990 by 11¼ feet, laid last year, and in covering the pier-head for about 111 by 28 feet; and the foundation timbers of the warehouse in the pier-head, which had settled, were jacked up and new timbers inserted to bring the posts of the warehouse to correct height and level the floor.

The expenditure for the fiscal year was $274.83.

L'ETANG.

L'Etang, in the harbour of that name, about five miles from St. George, was originally a provincial Government wharf, but was repaired and extended some years ago by the department, by the addition of a pier-head. It is now 251 feet in total length, with a general width of 16 feet, with a pier-head 28 by 17 feet. At the head there is a depth of 21 feet at high water, spring tides.

During 1912-13, a quantity of timber and iron was purchased to repair and reconstruct the work, and a block of round cribwork, 16 feet square, was built to a height of 14 feet, and ballasted.

The work was begun, February 17, 1913, suspended March 31, 1913, and was carried on almost continuously.

Expenditure for the fiscal year 1912-13 was $1,292.37.

LITTLE ALDOUANE.

The Little Aldouane river enters the north-west arm of Richibucto harbour about two miles north of Richibucto.

Work done 1912-13, consisted of widening a 20-foot cut, made in the last fiscal year, a further 20 feet for a length of about 141 feet.

As the ice went out unusually early in the spring of 1913, this dredging, which was being done through the ice, was not completed.

The object of this was by cutting through sharp bends in the channel, to enable fishing boats to sail direct to the wharf where their catches are landed.

In the lower half mile of the river, two cuts have been made, one 300 by 60 feet wide immediately below the wharf, and one 310 feet long by 20 to 40 feet wide near the mouth; about 25 feet only of the latter cut now requires to be widened to 40 feet. A small amount of dredging is also required in the berths at the wharf.

There were 305 cubic yards of mud removed in April, 1912, and 79 in March, 1913.

LITTLE BLACK RIVER.

The Little Black river enters the main Black river about two miles above the mouth of the latter in Miramichi bay, and about eighteen miles east of Chatham.

A total length of about 2,250 feet in two sections of 1,700 and 550 feet, giving a cut 30 feet wide with 2 feet at low water, was dredged above the highway bridge.

Dredging has been asked for in three sections of the river:(*a*) to continue the cut already made above the bridge for a length of 650 feet; (*b*) in a section just below the bridge, including a basin 100 by 80 feet in connection with a proposed wharf, to deepen the channel to 5 feet at low water in a length of 900 feet, 30 feet wide, and make a cut 500 feet long across a sharp bend in the channel, 30 feet wide with 5 feet

at low water; (*c*) to make a cut 1,300 feet long, with 5 feet at low water, and 30 feet wide, to avoid a very crooked section of the channel about 3,000 feet below the bridge.

A total of 10,112·8 cubic yards, barge measurement, of mud were removed during September 7 to November 23.

### LITTLE GULLY.

During the season of 1912, surveys were made for proposed breakwater at Little Gully, Kent county, near the southern end of Richibucto South beach to improve and make permanent a small channel used by fishing boats, and to give a harbour of refuge for boats during storms.

Work was in progress between the 22nd November and the 7th December, during January, between the 11th and 20th February, and on scattered dates in March, in quarrying 300 cubic yards of stone and hauling it to the site of the works, and in building a house for storing tools, iron, etc., and for quarters for the men.

About 8½ tons of bolts, 24,000 cubic feet of brush, and a large quantity of piles, lumber, etc., were purchased and delivered at the site of the work during the winter.

The expenditure for the fiscal year, and the total to date, was $2,315.33.

### LITTLE LAMEQUE.

Little Lameque, Gloucester county is a fishing settlement on Shippigan island, about four miles northerly by road from Lameque. The value of the codfish and lobster fisheries is about $25,000 annually.

On the 30th April, 1912, a contract was entered into with Mr. H. C. Beresford for the construction of a wharf at Little Lameque. The contract price is $24,890, and the wharf will be 1,495 feet long.

Construction had not begun, up to the close of the fiscal year 1912-13, but the contractor was arranging for materials for delivery in the spring of 1913.

### LITTLE ST. FRANCIS RIVER.

The channel of this river was cleared for a distance of five miles. Eighteen boulders were blasted, measuring from 3 to 4 feet in diameter.

Work was commenced on November 11, 1912, and was completed on 30th of the same month.

The total expenditure for the fiscal year ending March 31, 1913, amounted to $149.75.

### LOGGIEVILLE.

Loggieville, Northumberland county, a village of about 600 people, is the terminus of the Fredericton branch of the Intercolonial railway. It is situated on the south side of the Miramichi river, about five miles below Chatham.

Between the 6th May and the 14th August, 1912, the worn and decayed covering, 342 feet long, and the upper round timbers of the cribwork section of the roadway approach to the public wharf were removed, and a fill of stone, earth and gravel, about 3 to 6 feet deep and 20 feet wide was substituted, and about 1½ to 2 feet of gravel was placed over the inner earth section of the roadway for about 150 feet. The interior of the wharf was filled with old timbers, gravel, etc., over an area of about 5,000 feet to depths of 4 to 10 feet The river front of the wharf, 96 feet long, was covered with new 4-inch plank for a width of 25 feet, and a plank sidewalk, 510 feet long by 5 feet wide, was laid along the eastern side of the approach A total of about 2,500 loads of gravel, stone and ashes was used in the filling and surfacing.

The expenditure for the fiscal year was $1,749.81.

*Dredging.*

Dredging was done in front of the wharfs at Loggieville on the south shore of the Miramichi river five miles below Chatham.

Berths and approaches along the front of the wharfs were dredged for a length of 650 feet, and next the wharfs, on a width of 80 feet, to 18 feet at L.W.O.S.T. At each end, cut flares out to widths of about 100 feet, and the length along the outside is 830 feet, so as to give a deep water berth for shipments of fish in steamers of the Mexican line, for shipment of lumber in deal vessels, etc.

Some 20,181·5 cubic yards of mud, etc., place measurement, figured to subgrade where this depth was reached. The total quantity removed, measured in the scows, was 25,489·9 cubic yards from October 17 to November 1, returning on November 23 to remove some lumps and irregularities.

*East Side of Wharf.*

Dredging an area 100 feet long by 70 feet wide to 6 feet at low water, on the easterly side of the wharf, so as to give winter berth and shelter for schooners, barges, etc.

This dredging will form part of a proposed basin, about 220 feet square, to be dredged between the present public wharf and a proposed new railway wharf.

A total of 852·96 cubic yards of mud and sawdust, place measurement, figured to subgrade where this depth was reached. The total quantity removed, measured in the scows, was 1,841·46 cubic yards.

Work was done November 25, 26 and 27, 1912.

*Middle Ground.*

At middle ground between main channel and secondary or blind channel, in front of wharfs, the whole area required was gone over during 1912, except two strips 240 by 100 feet and 530 by 50 feet, which had been dredged during the previous year.

The object of this work is to provide a direct course from the main river channel across a middle ground to the wharfs, and allow deal vessels, etc., to take full cargoes there; 1,500 feet long, on centre line, by 200 feet wide, with 17 feet at low water, or 23 feet at high water, ordinary spring tides, was gone over, and 23,131½ cubic yards of mud and sand, place measurement, figured to subgrade where this depth was reached, were removed. The total quantity removed during the season, measured in scows, was 34,725 cubic yards.

*Prince Ito* worked from May 28 to June 29, and *Prince Louis*, June 3 to August 3.

LORNEVILLE.

Lorneville is a fishing settlement, ten miles west of St. John. The work, a combined breakwater and wharf, consists of an approach of round cribwork, sheathed on the outside, 300 feet long and 24 feet wide. The pier-head, 100 feet long and 32 feet wide, was detached from the main work by a storm.

On August 27, 1912, a contract was let for the construction of an extension to the breakwater. By the end of the fiscal year 1912-13, the work had not been begun.

During the year, a light was maintained on the damaged pier-head.

MARBLE COVE.

*Dredging.*

Marble Cove is located on the eastern shore of the St. John river, just above the reversible falls, in St. John county.

The dredging was for the purpose of making a basin, 200 feet wide and 7 feet deep. Work was commenced by the dredge *Beacon Bar* of the Maritime Dredging and Construction Company, on March 25, 1912, and suspended on April 9, the amount authorized having been removed; 11,065·8 cubic yards, scow measurement, of mud were removed at 30 cents per cubic yard.

The total expenditure, including inspection, for the fiscal year ending March 31, 1913, amounted to $3,415.74.

This dredging, when completed, will provide an entrance to the cove 11 feet deep, and clean up a small portion of the basin to 7 feet below low water. The dredge *New Brunswick No. 1* of the New Brunswick Construction Company commenced work on March 29 and by the 31st had removed 1,304.1 cubic yards, scow measurement, of mud, or 976·1 cubic yards, place measurement. This work is being performed at 24 cents per cubic yard, place measurement.

The total expenditure, including inspection, for the fiscal year ending March 31, 1913, amounted to $240.26.

Dredging was continued by the dredge *Keta* of Contractor J. S. Gregory, on August 29, and was completed on October 10. The basin in this cove, 200 feet wide, 750 feet long, was cleaned up to a depth of 7 feet below low water, and the area along the eastern side of this basin, extending to the shore, was dredged to a depth of 2 feet below low water; 40,330·8 cubic yards, scow measurement, of class 'B' material, or 39,601 cubic yards, place measurement, were removed. This work was performed at 24 cents per cubic yard, place measurement.

The total expenditure, including inspection, amounted to $8,547.12.

### MILL COVE.

Mill cove is on the eastern side of L'Etang river, near the head, and about six miles from the harbour of that name. It is about two miles from Trynor's cove. Spring tides rise 23½ feet.

During 1912-13, a new wharf of round cribwork, 80 feet long and 40 feet wide, with an earthern approach 53 feet long, was built by day labour, on the site of an old provincial Government wharf. There is 11 feet at high water at the head.

The work was begun, July 25, 1912, completed, November 23, 1912, and was carried on almost continuously.

Expenditure for fiscal year 1912-13 was $1,597.18.

### MIRAMICHI BAY.

At the Grandoon flats, on the Inner Miramichi bay, the cut made in previous seasons was widened 100 feet, i.e., to a total width of 300 feet for a length of 15,800 feet, and the cut was continued 300 feet wide for a length of 1,600 feet. At the inner end of the widened section, a triangular area was dredged about 1,100 feet long, with a greatest width of 160 feet, to give an easy turn from the Oak Point channel into the new cut.

The dimensions of the completed work is 3·6 miles long by 300 feet wide, widened at the inner entrance to a greatest width of 460 feet. The depth is 22 feet at low water, or 27 feet at high water, ordinary spring tides.

There were 392,854 cubic yards barge measurement of mud removed during the season.

The dredge *Hayward* worked from 31st May to 6th August, 12th to 23rd Auguset, 2nd to 11th September, 1912; *Invader,* 23rd May to 23rd August, 3rd to 11th September, 1912.

MISCOU.

Miscou island, about nine miles long by 4½ wide, forms the extreme northeastern corner of the province of New Brunswick. The population is about 500. The chief occupation is fishing, which is carried on extensively.

A public wharf was constructed in 1905 at Miscou harbour, Gloucester county, the general landing place for the island.

On the 12th July, 1910, a contract for an extension was entered into with Mr. E. R. Reid, the price being $16,840.

Work began on the 9th June, 1911, and by the 24th November, when it closed down for the winter, the first 12 blocks had been built 14 tiers high, i.e., up to the level of the stringers. The stringers were laid over eight blocks and nine spans, and the covering to the end of the 4th block. Blocks 13 to 20 had been built 12 tiers high, block 21 and the pier-head, 10 tiers high, and all filled with ballast.

Work was resumed on the 12th June, 1912, and the contract was completed on the 18th September. The extension as completed, is 899·7 feet long, consisting of 20 blocks 20 feet square, 21 spans of 20 feet and a pier-head 80·5 feet long and 29 to 29·7 feet wide, composed of one block 20 feet and one 40 feet long, and a span of 20 feet.

The expenditure for the fiscal year was $5,018.64.

MISPEC.

In a long narrow cove at Mispec, eight miles east of St. John, the department has built two piers for the protection of the barges engaged in carrying supplies to, and pulp from, a mill built at head of the cove. The east pier is 228 feet long, and 34 feet wide on top.

During 1912-13, a break, 50 inches high, was built along the seaward side of the east breakwater for a length of 253 feet 7 inches. Timber and iron were purchased to repair the work damaged by a heavy storm in January, 1913. Some face-timbers were placed in the work, but operations had to be suspended for lack of funds.

Work was begun, August 22, 1912, ceased, February 6, 1913, but was not carried on continuously.

Expenditure for the fiscal year 1912-13 was $1,446.43.

MONCTON.

Moncton, Westmorland county, is the headquarters of the Intercolonial railway and the terminus of the Grand Trunk Pacific and Moncton and Buctouche railways. The population is 11,333. The town lies at the head of navigation on the Petitcodiac river.

An addition, 162 feet long, on the river front to the old public wharf, so called, was built in 1909-10.

The old wharf itself, which has a frontage of 90 feet, was under repair in 1911-12. This work was continued and completed between the 2nd and 28th May, 1912, when the cap timbers, two ladders and part of the sheathing and covering were placed, and the fenders and sheathing were trimmed and bolted. About 80 cubic yards of ballast were placed in the work.

The expenditure for the fiscal year 1912-13 was $256.10.

MUNIAC RAPIDS.

Thirty-four boulders were blasted at this place, measuring about 45 cubic yards.

Work was commenced on September 26, and was completed on October 12, 1912.

The total expenditure for the fiscal year ending March 31, 1913, amounted to $105.80.

NASHWAAK RIVER.

On January 17, 1913, a hydrographic survey, in connection with dredging asked for on the Nashwaak river, was commenced, but owing to the freshet, this survey had to be suspended on the 12th February.

The total expenditure for the fiscal year ending March 31, 1913, amounted to $260.24.

MOUTH OF NASHWAAK RIVER.

*Dredging.*

The mouth of Nashwaak river is on the eastern bank of the St. John river, directly opposite Fredericton, in York county.

The work required the removal of a small bar to a depth of 7 feet below low water. The dredge *Tanta Wanta*, of the St. John River Dredging and Construction Company, was released from the dredging at Fredericton in order to do this small piece of work, which was commenced on July 20, and completed on the 24th of the same month; 1,843·9 cubic yards, scow measurement, of class 'B' material were removed. This work was performed at 40 cents per cubic yard, scow measurement.

The total expenditure for the fiscal year ending March 31, 1913, amounted to $737.56.

NEGUAC.

Neguac, Northumberland county, lies at the northern end of the Miramichi bay, about twenty seven miles from Chatham.

The public wharf here, built by the department in 1892 to 1894, is the terminal point for trips of the daily river steamers, and freight is landed here for the districts of Neguac, Tabusintac, &c.

During the fiscal year 1912-13, the construction of a cribwork block to form an extension of the Neguac wharf, was begun. The block will be 62 feet long, by 20 feet wide on top, and was built to a height of 9 tiers, ready for sinking in place. A quantity of materials are on hand for the continuation of the work.

Work was in progress on the 25th and 26th June, from the 17th July to 10th September and from the 18th to 19th October.

The expenditure for the fiscal year was $2,299.37.

NELSON.

Nelson is situated about five miles above Chatham, and opposite Newcastle.

Dredging in front of the Mill wharf, an area 505 to 540 feet long and 10 to 30 feet wide to a depth of 22 feet at L.W.O.S.T., and deepening the berth in front of the Ballast wharf for a length of 95 feet, to provide a deep-water berth for tramp steamers and other vessels in the lumber trade.

A total of 567·73 cubic yards of ballast, gravel, mud and shell rock, place measurement, figured to subgrade where this depth was reached, were removed at the Mill wharf, and 70·2 cubic yards at the Ballast wharf. The total quantity removed, measured on the scows, was 1,221·9 cubic yards.

Work was done between October, 21 to 24, 1912.

NEWCASTLE.

*Dredging.*

Work was done at Crandall' wharf, near the upper end of the town of Newcastle on the north shore of the Miramichi river, by dredging an area for steamer berth along the face of the wharf from 280 to 300 feet long and 40 to 140 feet wide to 22 feet at low water.

There were 3,955·7 cubic yards of sand, place measurement, figured to subgrade where this depth was reached. The total quantity removed, measured in the scows, was 6,019·05 cubic yards, between October 4 and 15, 1912.

An area about 60 to 90 feet long, by 70 feet wide, was also dredged to a depth of about 9 feet at L.W.O.S.T., at the ferry slips.

There were 835·3 cubic yards, barge measurement, of soft mud, removed between May 13 and 22, 1912.

A bank along the face of the Ritchie wharf, 475 feet long and 5 to 35 feet wide, or out to the 22-foot contour, to 22 feet at low water, was removed, so as to allow lumber steamers to lie close to the wharf; 478·98 cubic yards of clay, place measurement, figured to subgrade where this depth was reached. The total quantity removed, measured in the scows, was 2,543·68 cubic yards, between October 9 and 14.

NORDIN.

Work was done at the Swedish Canadian Lumber Company's wharf on the north bank of the Miramichi river, about two miles below Newcastle, by dredging a steamer berth along the lower section of the wharf, about 350 feet long and 60 feet wide to 22 feet at low water, dredging along the upper section an area 268 feet long by 40 feet wide to 10 feet wide to 16 feet at low water to give a berth for smaller vessels; 3,425·9 cubic yards of mud and gravel, place measurement, figured to subgrade where this depth was reached. The total quantity removed, measured in the scows, was 5,191·7 cubic yards.

The dredge *Hayward* worked from October 2 to 8; *Invader*, November 21.

NORTH HEAD.

At Flagg cove, near North Head in Grand Manan, an island forming part of the county of Charlotte, and lying 24 miles south of St. Andrews, but double that distance from St. John, a wharf, known as Dixon's, was purchased by the department, and has since been repaired by day labour, and extended by contract. The existing work is 400 feet long. Spring tides rise 22½ feet.

On the 28th of November, 1912, a contract was let for the construction of an extension to the present breakwater, 100 feet long on the centre line and 38 feet wide on top, of square cribwork, sheathed on the seaward side. By the end of the fiscal year 1912-13, the work had not been begun.

NORTH-WEST MIRAMICHI.

*Dredging.*

Work was done one and a half miles below Redbank and thirteen and a half above Newcastle, and consisted of dredging a cut about 50 to 100 feet wide across portions of the shoal where there were previous depths of 3 to 4 feet, to 5 feet at low water. The total length of the shoal is about 2,000 feet.

This was to provide a channel with 5 feet at low water, or 12 feet at high water, ordinary spring tides, for the daily river steamer to Redbank, the head of navigation, and for tugs to the North-West boom.

A total of 5,308·94 cubic yards, barge measurement, of sand, gravel, etc., were removed from September 21 to October 31, 1912.

Work was also done about three miles above Newcastle and at the head of deep water navigation on the river, and consisted of dredging an area 100 feet wide, 650 feet long next the wharf and 720 feet long on the outside to generally 22 feet at low water, or 28 feet at high water, ordinary spring tides, so as to give deep water berths in front of the Edward Sinclair Lumber Company's wharf where steamers may lie afloat and take full loads.

Solid rock is met with towards the lower end of the berths on the inside, and the full depth therefore could not be reached there, and a few spots elsewhere are still above grade; 7,495.56 cubic yards, place measurement, mud and sand figured to 23 feet where this depth was reached. The total quantity removed, measured in the scows, was 9,359·53 cubic yards, from November 6 to 20, 1912.

OX ISLAND.

*Dredging.*

Ox island is situated on the southwest side of Gilbert's island, in the St. John river, in Sunbury county.

A bar was removed close by this island, 1,910 feet long and 75 feet wide, to a depth of 10 feet below low water, by the dredge *New Brunswick No. 1* of the New Brunswick Construction Company. Work was commenced on July 22 and completed August 9; 13,823·3 cubic yards, scow measurement, of sand and clay, having been removed, or 10,367·5 cubic yards, place measurement, at 24½ cents per cubic yard, place measurement.

The total expenditure, including inspection, for the fiscal year ending March 31, 1913, amounted to $2,595.04.

PERRY POINT.

*Dredging.*

Perry point is on the northern bank of the Kennebecasis river, in Kings county.

Dredging was commenced on November 2 and suspended owing to the close of navigation, on November 25. This dredging is under contract with the Maritime Dredging and Construction Company and was performed by the dredges *New Brunswick No. 1* and *New Brunswick No. 2* of the New Brunswick Construction Company, the latter dredge working but a very few days. This dredging when completed will provide a channel approximately 1,900 feet long, 75 feet wide and 9 feet deep. During the period worked, 19,758·6 cubic yards, scow measurement, of mud, clay, gravel and sawdust were removed at 19½ cents per cubic yard, together with an old pier, containing approximately 333 cubic yards, place measurement, which was paid for at the rate of $26.03 per hour.

The total expenditure, including inspection, for the fiscal year ending March 31, 1913, amounted to $3,987.39.

PETIT ROCHER.

Petit Rocher, Gloucester county, is a farming and fishing settlement on the Bay des Chaleurs, twelve miles northwest of Bathurst. A breakwater was constructed here between 1905-1908.

During the fiscal year, 1912-13, a cribwork block 40 feet long, 10 feet wide and 13 feet high, was constructed at the inner end of the cribwork part of the breakwater to replace the outer part of the original stone slope which was several times damaged and nearly cut through by storms. The outside of the block was sheathed with 6-inch hardwood plank. A block 3 feet deep, 9 feet long and 10 feet wide, was also built to fill a hole scoured out under the inner end of the old cribwork.

The roadway from the breakwater to the highway, about 2,400 feet long and 33 feet wide, was graded in a width of 20 feet, ditched on each side and fenced, 237 rods of wire fencing being used, and the road was gravelled. Ledges on the shore, inside the breakwater, were blasted and large stones removed at three points to make smooth beaches on which to haul up the fishing boats. The bridge on the old right-of-way to the shore, which has a 12-foot span and is 20 feet wide, was repaired, the covering and stringers being renewed.

Work was in progress between the 4th July and 8th August, from the 21st August to 7th September and between the 23rd and 26th November.

The expenditure for the fiscal year was $1,518.86.

POINTE DU CHÊNE.

Pointe du Chêne, Westmorland county, lies on the southeast side of the Shediac harbour. It is a terminus of a branch of the Intercolonial railway and for the steamer *Empress,* running during the season of navigation, from Summerside, P.E.I.

During the fiscal year, 1912-13, the construction of a retaining wall, begun at the end of the last fiscal year, was continued. The wall is 258 feet long and is composed of main piles, with brace piles 6 feet to the rear, and walings and cross-piles along the outer face. It begins inside the outer breakwater and runs along the rear of the ballast wharf to prevent ships' ballast from being washed into the dock.

Work was in progress on April 10, April 21 to May 16, and July 10 to August 22, when 481 piles were driven and the walings and braces placed.

The expenditure for the fiscal year was $997.81.

POINT SAPIN.

Point Sapin, Kent county, is a fishing and farming settlement of about 300 inhabitants on the shore of the Northumberland straits, about 8 miles south of the entrance to Miramichi bay. The district is about thirty-four miles by road from the nearest railway, therefore dependent on water transport, for which, up till the past year, there was no shelter or wharf accommodation. The value of the fisheries is about $20,000 to $30,000 annually.

On August 17, 1911, a contract was entered into with Mr. Warren Taylor for the construction of a breakwater wharf at Point Sapin. The contract price was $16,890.

Work began on May 20, 1912, and the breakwater was completed on December 10. It consists of an approach, of which 200½ feet is 15⅔ feet wide, and a pier-head, or 'L' 146 feet long and 25½ feet wide, measurements being taken at the floor level, and is constructed of cribwork with close-faces of square timber and with a re-enforced concrete wave break 12 feet in total height and reaching 5 feet above floor level along the outer and eastern end of the pier-head.

At an additional cost of $2,730, the approach was lengthened 100 feet, included in the above measurements, to give greater harbour area inside the pier-head and about 1½ feet more water.

The expenditure for the fiscal year was $15,751.50.

QUACO.

St. Martins, or Quaco, as the village is indifferently called, is situated thirty-two miles east of St. John, is the terminus of a branch railway, and seat of several saw mills. Inside low-water mark, piers of close-faced cribwork have been built on each side of the outlet of a small stream, in order to give shelter to vessels at high-water. The pier on the east side is 554 feet long and 20 feet wide, with a depth of 23½ feet at high-water at the end. The west pier is 302 feet long and 20 feet wide at the top of a slope of one to one. Spring tides rise 30 feet and leave the work dry at two-thirds ebb, receding from them one-quarter of a mile at low-water.

During 1912-13, the sheathing on the seaward side and end of the western breakwater was renewed; new fenders, mooring posts and ladders were placed on the inside, and the greater part of the cap was renewed.. The east pier was newly sheathed for about 10 feet, and some fenders were replaced. The damage caused by a heavy storm in January, 1913, was repaired. The damage consisted in the removal of sheathing, together with face-timbers and some ballast, for a length of 60 feet along the west

breakwater, and the removal of a small amount of covering from the eastern breakwater.

Work was begun July 15, 1912, completed March 20, 1913, but was not carried on continuously.

Expenditure for the fiscal year 1912-13 was $3,396.03.

RESTIGOUCHE RIVER.

This work was done in Bonaventure county, on north shore of the Restigouche river, opposite Campbellton, and consisted of dredging berths along the outside of the wharf, 525 feet long and 100 feet wide to 18 and 22 feet at L.W.O.S.T., and along the inside of the wharf about 225 feet long and 60 feet wide to 17 feet at low-water, and deepening an area about 100 feet square at the end of the wharf to 15 feet to give an approach to the inside berth. The previous depths were 15 to 22 feet, about 7 feet and 4 to 10 feet. The range of spring tides is 10 feet.

A total of 30,460 cubic yards, barge measurement, were removed by the *St. Lawrence Dredge No. 2,* from 4th to 12th June, 2nd and 3rd July, 9th July to 10th August and 7th to 19th October.

REXTON.

Rexton, Kent county, lies on the Richibucto river, three miles above Richibucto.

The public wharf, built in 1891-2, was 199 feet long by 36 feet wide; it is approached from the Rexton highway bridge. In 1910, the wharf was enlarged by the construction of an end block, 53 by 51 feet. The old section of the wharf has since been under repair.

Work was in progress between the 28th June and the 30th September, 1912, when a section of the wharf, 82 feet long, was rebuilt from low water level with new cribwork stringers, covering and cap, and the covering of the approach from the highway bridge was repaired.

The expenditure for the fiscal year 1912-13, was $1,447.50.

RICHIBUCTO.

Richibucto, the shire town of Kent county and the terminus of the Kent Northern railway, has a population of 612. The public wharf at Richibucto was acquired from the municipality in 1908-9.

On May 26, 1911, a contract was entered into with Mr. Thos. O. Murray for the construction of a curved approach to support a railway siding in the angle between the approach and the pier-head of the public wharf, and an extension of the pier-head; also for dredging the foundation for the extension and the berth in front, to 14 feet at L.W.O.S.T. The contract price was $17,000.

Work was begun on May 29, and by October 14, 1911, when it closed down for the season, the approach only required the fenders, an upper tier of cap timbers and the gravel surfacing. A crib, 104 feet long, for the extension was built 8½ tiers high and the dredging was about fourth-fifths completed. Work was resumed on April 22, 1912, and the contract was completed on the 28th November.

The approach is 271·8 feet long and 25 feet wide, except at the ends which narrow to a point next the old work. The extension is 204 feet long by 40·2 feet wide. The whole is built of round timber cribwork, surfaced with ballast and gravel, and the extension is sheathed on the upper 10 feet with hardwood plank. A triangular space, between the approach and the old wharf, is filled with old railway ties and stone, and surfaced with gravel.

The expenditure on the contract for 1912-13, was $11,121.99, which includes $416.25 for inspection and an extra of $535.74 for cribwork, required on account of settlement beyond what is allowed for in the contract plan.

During the fiscal year 1912-13, work was also in progress by day labour on the original public wharf. A pile-driver frame was built, and 107 piles driven to complete the close-piling of the old pier-head along the outer faces, begun in 1910. The interior of the wharf was surfaced with 567 cubic yards of gravel. About 560 lineal feet of new cap timbers were laid along the pier-head and approach, and six ring bolts were driven in the cap, and the latter was painted with carbolineum.

Work was in progress between the 12th and 22nd August, 3rd and 24th September, 14th and 23rd October, 4th, 8th, 11th and 15th, and the 19th and 23rd November.

The expenditure on the day labour works was $1,167.44.

The total expenditure for the fiscal year was $12,289.43.

*Dredging.*

The entrance to Richibucto harbour lies on the Northumberland Straits, about midway between Miramichi bay and Shediac.

Work done in 1912-13, consisted of dredging a channel 3,600 feet long, 150 to 200 feet wide, and 13½ to 16½ feet deep at L.W.O.S.T., across a shoal outside the entrance so as to improve the channel formed by the river current across extensive sand bars, and give a depth of 15 feet at low water, or 19 feet at high water, ordinary spring tides, where the limiting depth was formerly about 8 to 11 feet at low water, to enable vessels to take full loads of lumber inside the harbour.

A total of 85,870 cubic yards, barge measurement, sand, were removed from 3rd July to 6th August; 12th August to 19th October.

RICHIBUCTO BEACHES.

The Richibucto river enters the Northumberland Straits three miles below the town of Richibucto, about twenty-six miles south of Miramichi bay, and forty miles north of Shediac.

Works, intended to protect the beaches at each side of the entrance, and to increase, by scour, the depth over the bar outside, were begun on the north branch in 1873.

On the 5th May, 1911, a contract was entered into with Mr. Thos. P. Charleson for the construction of a 240 foot extension to the breakwater on the Richibucto north beach. The contract price was $20,895. The work consists of brush mattresses secured with piles and overlaid with a bank of stone, 12 feet wide on top, and with sides sloping at the rate of 2 to 1.

Work began about the 1st June and closed down for the season on the 27th October, 1911, when the lower mattresses had been laid for the whole length, the upper mattress and the core stone for half the length, and the outer layer or stone slopes for about 15 feet on one side.

Work was resumed on the 14th May, 1912, and the contract was completed on the 23rd October.

On the 11th December, 1911, a contract was entered into with Mr. Thos. P. Charleson for the construction of a breakwater and breastwork on the Richibucto south beach. The contract price is $11,895.

The work will consist of a breastwork 300 feet long, composed of small piles with brush and stone filling, and a breakwater, 300 feet long, of which the first 250 feet is of pile-work, filled with brush and stone, and the outer 50 feet is similar to the breakwater at the north beach.

Work began on the 6th May, 1912, and closed down for the season on the 24th October, when the breastwork and pile-work section of the breakwater were completed, the piles were driven and lower mattress laid in the outer section, and about 80 cubic yards of core stone were placed over the mattress.

The expenditure for the fiscal year was $18,328.95, of which $12,364.51 was expended on the north, and $5,799 on the south breakwater, including inspection, and an extra of $1,393.51 for quantities of materials required on the north breakwater, on account of scour occurring on the site after the contract plans were prepared and during the progress of the work. An expenditure of $165.44 is also included for the erection of a building 15 by 20 feet for use as an office and dwelling for the inspector on the south beach.

RICHIBUCTO CAPE.

Richibucto cape, Kent county, lies six miles south-east of the entrance to Richibucto harbour and five and a half miles north of Chockfish river. The distance from Richibucto cape to Prince Edward Island is fourteen and one-half miles. The inhabitants of Richibucto cape, Richibucto village (2 miles inland), and the neighbourhood, number about 1,000, engaged in farming and fishing.

Between the 1st and 6th April, between the 28th May and the 8th January and between the 4th and 19th March, work was in progress on the construction of a breakwater, begun in 1908.

Two cribs 32 feet wide, at the bottom, with a total length of 100 feet, to complete the pier-head, or 'L,' were sunk in place and built up to half tide level and additional timbers were laid on the 128-foot section built in 1911 to level the whole. A crib 86 feet long, 25 feet wide at the bottom, and 20 feet at the top, was built up to within 3 feet of the top. This forms an extension of the approach constructed in 1908 and 1909, and a second crib of the same width, and 85 feet long was built up to within about 6 feet of the top, to form a further extension. This crib was carried away by a storm and grounded on a sand bar but was floated off, with empty barrels and a scow, and sunk in position.

There remains to be built a crib, 55 by 30 feet, to connect the present end of the approach with the pier-head.

About 359,000 feet b.m. of round and sawn lumber, 11,983 lineal feet of ballast poles, and 1,100 cubic yards of ballast, were procured and used during the season; about 285 cubic yards of ballast were quarried, and 13 tons of bolts and a quantity of lumber were purchased, and are on hand for the continuation of the work.

The expenditure for the fiscal year 1912-13 was $10,749.08.

RILEY BROOK—TOBIQUE RIVER.

A timber breakwater, ballasted with stone, was constructed at this place, 145 feet long, 7 feet wide at the upper end, 20 feet wide at the lower end, and 6 feet high.

Work was commenced on August 21 and was completed on September 13, 1912.

The total expenditure for the fiscal year ending March 31, 1913, amounted to $301.60.

ROCKY BROOK.

The channel of this brook was cleared of obstructions for a distance of five and a half miles. The sluice-way, measuring 183 feet long, 7 feet wide and 5 feet high, was repaired by placing new piers.

Work was commenced December 2, 1912, and suspended on 12th of the same month; work was resumed on March 9, 1913, and completed on the 12th of the same month.

The total expenditure for the fiscal year ending March 31, 1913, amounted to $100.51.

SACKVILLE.

Sackville, Westmorland county, is a thriving town of 1,380 inhabitants, and a station on the Intercolonial railway at the junction with the New Brunswick and

Prince Edward Island railways. It lies on the Tantramar river and near the head of Cumberland bay.

On the 6th April, 1911, a contract was entered into with Messrs. O. and W. Downey for the construction of a wharf at Sackville. The contract price was $30,643. Work commenced on the 10th May, and by the 9th of November, 1911, when it closed down for the season, the shore block had been built up ready for the covering; the small block of the approach to about two-thirds the finished height, and the main wharf to a height of 29 tiers, or 24 feet for the full length on the outer face, with an additional 3 tiers for a length of 330 feet, and one tier for 80 feet; the two lower ballast floors had been laid complete and the upper for a length of 230 feet.

Work was resumed on the 1st May, 1912, and the contract was completed on the 10th September.

The work consists of an approach, or shore block, 151 by 20·1 feet, a span 20 by 20 feet; a block 21·5 feet long by 20 feet wide, of round-timber cribwork; a span 16½ feet long, and a main wharf 350·9 feet long and from 39·9 to 40·9 feet wide, built of cribwork with close face and square timber on the ends and outer side; a bed for vessels, 400 by 51 feet, along the outside face partly excavated and partly built up of stone and brush and protected by cribwork structures, 50 by 12 feet at the ends; also a bed 200 by 30 feet formed by excavation on the inside of the wharf. The top of the outer bed is 29 feet below the covering of the wharf, and the inner bed is 18 feet below.

Between the 14th October and the 14th December, 1912, work was in progress on the construction of a roadway to the wharf, 960 feet long. The road was brushed and graded with the material from the ditches excavated on either side, and with about one foot of stiff clay taken from the river bank. About two carloads of ashes were used for surfacing part of the road. Two wooden culverts were built.

The expenditure for the fiscal year was $14,292.03, of which $13,197.12 was expended under contract, including inspection, and $741.26 on the roadway.

### SEAL COVE.

Seal cove, on the island of Grand Manan, is an exposed inlet, at the head of which is an important fishing station. It is situated about twelve miles from North Head. Spring tides rise 20 feet.

In 1909-10, a breakwater, 439 feet long, was built at Seal cove to give some shelter to the fishing boats at the mouth of Benson cove.

During 1912-13, a break, 256 feet long, with an average height of 4 feet, has been constructed on the outer arm of the breakwater. Five new ladders were placed on the work, and approximately 30 cubic yards of ledge have been blasted and removed from alongside the breakwater.

Work was begun September 2, 1912; ceased, November 13, 1912, but was not carried on continuously.

Expenditure for fiscal year 1912-13 was $593.07.

### SHEDIAC.

Shediac Westmorland county, a town of 1,442 people, lies on the Northumberland straits, 20 miles south of Buctouche and two miles southwest of Pointe du Chêne. It is a center for a large farming and fishing district, and a popular summer resort.

On June 23, 1910, a contract was entered into with Messrs. J. Burns and T. P. Charleson for the construction of a wharf at Shediac. The contract price was $20,690. Work began on October 19, 1910, and the work was completed by September 15, 1911, except that a small amount of creosoted sheathing was required on the shore block. This was placed in July, 1912, the contract being completed on July 4.

The total length of the wharf is 1,107·5 feet. It consists of a shore block, 20 feet wide by 211 feet long, 20 blocks 20 feet square, 21 spans of 20 feet, one block 20 by 30

feet, one span 20 by 30 feet, and a pier-head 81·4 by 30·5 feet, placed at right angles to the approach. The dimensions of the pier-head include a 30 by 50 foot extension built as an extra, under the contract, at a cost of $2,700. The wharf is sheathed and close-piled with 4-inch creosoted plank.

Between October 15 and 21 and on November 3 and 12, 1912, the three spans next the pier-head were closed by placing stringers between the blocks, two in each span, and spiking creosoted planks to these stringers on each side and to the centre floor stringer, and three iron davits were erected on the wharf. This work was done by day labour.

The expenditure for the fiscal year was $1,031.60, of which $526.60 was for the day labour works and $505 for the contract.

*Dredging.*

Work done in 1912-13 consisted of continuing and completing the work begun in 1911 of dredging an approach to and berths at the new Shediac wharf.

As completed, the dredging consists of a basin 380 feet long at the outside, narrowing to 230 feet at the face of the wharf, and 175 feet wide; and two berths, that at the easterly side of the wharf, 100 feet long by 80 feet wide, and on the westerly side, 120 feet long by 100 to 150 wide; a cut 2,630 feet long and 100 wide from the outer, or northeast corner of the basin, and a second cut 600 feet long and 100 wide across a shoal between the outer end of the first cut and deep water at the harbour entrance. The general depth reached was 12 feet at low water, or 16 feet at high water.

Of the total dredging, as above, the outer 1,480 feet of the first cut was dredged to a width of 75 feet, and the next 240 feet to a width of 40 feet, in a previous season.

The material removed consisted of a total of 66,008 cubic yards, place measurement, of mud and clay, of which 45,315 cubic yards were removed during 1912-13.

The total barge measurement quantity was 79,378·8 cubic yards, and work was done from May 31 to October 12, 1912.

SHIPPIGAN GULLY.

Shippigan gully, Gloucester county, a passage between Shippigan island and the mainland, much used by fishing and other vessels in passing from Baie des Chaleurs to the Gulf of St. Lawrence, is situated fifty-six miles east of Bathurst, the shire town of the county, and three miles from Shippigan, the terminus of the Caraquet railway.

Works were begun in 1875 to improve the channel at the gully, in which there was then a least depth of only 3½ feet at low water. The construction of dams and breakwaters concentrating the current in one channel, increasing the depth to nearly 6½ feet in 1898, and to about 8 feet at low water, or 13·8 feet at high water spring tides in 1903-4.

Between June 10 and October 19, 1912, work was in progress on the rebuilding of the western breakwater, in continuation of the work of the last two seasons.

The section, 150 feet long, begun in 1911-12, was completed, walings and braces were placed and the close-piles driven for a length of 70 feet, and the covering was laid for the whole length. In a further section, 123 feet long, the main piles were driven 3 in every 10 feet, cross-ties and covering placed over about 118 feet, close piles driven and walings placed over a length of 23 feet, and brush and stone placed for a length of 78 feet.

The expenditure for the fiscal year was $2,858.88.

*Dredging.*

The cut made in 1904 and 1905, by the *George MacKenzie,* was widened about 60 feet in a length of 225 feet. The depth reached was 8 feet at L.W.O.S.T., so as to complete a cut which crosses the flats and does away with a sharp bend in the old

channel. It was originally 130 feet wide, and is to be widened to 200 feet to give more room for fishing schooners when tacking through it. Shippigan gully is used by a large fleet of fishing vessels, as well as by tugs, trading schooners, etc.

The total length of the dredging required is about 2,000 feet, and width at bottom about 70 feet. The depth required is 8 feet at low water, or 13·8 feet at H.W.O.S.T. There were 2,633·5 cubic yards, place measurement, removed, figured to 9 feet at low water where this depth was reached. The total quantity removed, measured in the scows, was 3,408·3 cubic yards, and work done from 1st to 19th November, 1912.

SIEGAS RIVER.

The channel of this river was cleared for a distance of about 13 miles and two new channels were cut, the one 3 miles from the mouth, 10 rods long, 10 feet wide and 4 feet deep, and the other about 3½ miles from the mouth, 5 rods long, 8 feet wide and 3 feet deep.

Work was commenced on November 11 and was completed on December 7, 1912.

The total expenditure for the fiscal year ending March 31, 1913, amounted to $150.

SISSON BROOK.

The channel of this river was cleared of obstructions for about one mile, 250 boulders having been removed, 60 of which were blasted, measuring 42 cubic yards.

Work was commenced on September 23, and was completed on October 18, 1912.

The total expenditure for the fiscal year ending March 31, 1913, amounted to $199.65.

ST. ANDREWS.

St. Andrews is a terminus of a branch of the Canadian Pacific railway, and lies, by water, fifty miles west of St. John. In the summer months, St. Andrews is a favourite watering-place, frequented by tourists and yachtsmen, also by fishermen. An extension of the public, or what is known as the market wharf, was built by the department a few years ago. The extension consisted of a pile approach 468 feet long, and a pier-head of square cribwork, 36 by 70 feet. There is a depth of 34 feet at high water at the end of the pier-head.

During 1912-13, the west side of the approach to the wharf was close-piled for 508 feet, with a view of sheltering boats lying there. Some braces and walings were secured to the piles and a freight shed, 14 feet by 16 feet, was built on the wharf.

Work was begun June 1, 1912, completed March 27, 1913, but was not carried on continuously.

Expenditure for the fiscal year, 1912-13, was $2,624.89.

*Dredging.*

The dredging done in 1912-13 consisted in the removal of a few shoal spots in the eastern entrance channel, to a depth of 12 feet below low water; completing a basin in front of the Canadian Pacific Railway Company's wharf to a depth of 15 feet at low water, and an anchorage basin extending to the public wharf, to a depth of 10 feet at low water.

The Maritime Dredging and Construction Company's dredge *Beacon Bar* removed 60,000·3 cubic yards, scow measurement, of sand, gravel, hard-pan, clay and mud, at a cost of 24½ cents a yard.

Work was begun on June 24, 1912, and was completed on August 27, 1912.

ST. CROIX RIVER.

In 1911, an arrangement was entered into with the United States Government whereby the Public Works Department of Canada agreed to contribute 10 per cent of the cost of dredging a channel in the St. Croix river, which forms part of the boundary line between New Brunswick and Maine. The total estimated quantity to be removed is 443,835 cubic yards.

On February 9, 1912, the United States Government entered into a contract with the Bay State Dredging Company, of Boston, Mass., for the first instalment of dredging, namely, 226,920 cubic yards. The part of the general project to be done under this contract consists in dredging to secure a channel having at least 12 feet at mean low water, and a general width of 200 feet, between Hill's point and the lower steamboat wharf, a distance of about two miles, and a least depth of 9 feet and a general width of 150 feet, above the lower steamboat wharf, for 1¾ miles.

During 1912-13, the Bay State Dredging Company's dredge *No. 4* removed 127,879 cubic yards, scow measurement, of sawdust, clay, mill waste, logs, rocks, gravel and mud.

Ten per cent of 127,879 cubic yards at 32½ cents, $4,124.09.

Work was begun on the 17th May, 1912, and suspended on the 7th December, 1912.

ST. FRANCIS RIVER.

A channel was cleared in this river for a distance of forty rods, and obstructions removed for a distance of six miles.

Twelve boulders were blasted at Cross lake, measuring 2½ to 5 feet in diameter.

Work was commenced on July 17, 1912, and was completed on 25th of the same month.

The total expenditure for the fiscal year ending March 31, 1913, amounted to $100.01.

ST. GEORGE.

At St. George, situated at the head of tide on the Magaguadavic river, there are several granite mills, also a pulp mill and some saw-mills. Pulp and lumber are shipped by water. The population of St. George is about 1,629. Spring tides rise 23½ feet.

*Dredging.*

On the 20th of August, 1912, a contract was let to the Maritime Dredging and Construction Company, Limited, for the removal of 46,280 cubic yards, scow measurement, of class 'B' material. The work to be done consisted in the widening and deepening of the channel to the public wharf, in order to allow the passage of coasting vessels.

During 1912-13, a portion of the channel, 2,250 feet long and 75 feet wide, was dredged to 8 feet at low water, with the exception of two spots, 100 feet by 50 feet, and 200 feet by 20 feet, respectively, where a depth of approximately 7 feet was made.

The Maritime Dredging and Construction Company's dredge *Beacon Bar* removed 46,285·7 cubic yards, scow measurement, of edgings, mud, sand, sawdust, slabs and coarse sand.

Work was begun on the 28th August, 1912, and completed on the 16th November, 1912.

## St. John Harbour.

FORT DUFFERIN.

This is a breastwork on the west side of the entrance to St. John Harbour, 962 feet long, from 7 to 14 feet wide on top, and about 9 feet in mean height. The work is intended to protect the headland upon which Fort Dufferin is built.

During 1912-13 the work was close-piled for 92 feet of its length; the break, four timbers high, was reconstructed for 105 feet, and 125 cubic yards of stone ballast were placed in the cribwork.

Work was begun, May 14, 1912, completed, July 22, 1912, and was carried on continuously.

Expenditure for the fiscal year 1912-13 was $1,241.99.

NEGRO POINT.

Negro point is a breakwater (originally built with a cribwork core, but now a rubble mound) 2,200 feet in length, closing a part of the west channel of St. John harbour. Although the stones were large, they were easily dislodged by the sea, and for some years heavy concrete blocks have been made in place on top of the mound.

During 1912-13, twenty-four blocks of concrete, aggregating 667·5 cubic yards, were made in place; 44 cubic yards of concrete were placed about the base of Negro point lighthouse; steps, containing 29·4 cubic yards, of concrete, were made down the side of the breakwater; a boat landing, also of concrete, and containing 188 cubic yards, was built near low water mark; 416 bags were made of jute and filled with concrete for Partridge island, water pipe, where undermined; 1,000 cubic yards of granite and 1,300 barrels of sand were delivered at the work; 1,320 cubic yards of granite were crushed to the size required for concrete; a new hoisting engine and boiler, for transferring large rocks to the seaward side of the breakwater, was purchased; about 400 cubic yards of rock were moved up around the foundation of the lighthouse; 60 cubic yards of rock were transferred from the inner side of the breakwater to the base of the concrete at the outer side; repairs were made to the plank walk along Fort Dufferin breastwork, and repairs were also made to the stone crusher, etc.

Work was begun May 1, 1912, suspended January 31, 1913, and was carried on almost continuously.

Expenditure for the fiscal year 1912-13 was $18,935.93.

SAND POINT.—BOILER HOUSE.

The removal of 90 feet at the southern end of the C. P. Ry. wharf necessitated the removal, also, of a boiler house owned by the city, which covered the heating plant of the potato warehouse, leased by the city to a local firm. To replace this house, $300 was authorized to be expended by the city, which amount would be refunded by the department, on receipt of properly certified pay-lists and vouchers. No account has yet been rendered by the city.

PARTRIDGE ISLAND.

Partridge island is the quarantine and lighthouse station at the entrance of St. John harbour.

During 1912-13, materials were purchased to repair damage done to the wharf by a heavy storm on the 4th of January. The work of repairs was done by the party employed on general work in St. John harbour.

*Waterworks.*

From May 17, to July 4, 1912, an examination of Partridge island water pipe was made by a diver, in order that a report could be given as to the advisability of repairing or abandoning this pipe. Five leaks were discovered, one of which the diver repaired. Two anchors and chains were taken up from under the pipe, and landed on Partridge island. To the dragging of these anchors, the first leaks are attributed. On the 15th of July, 1912, it was reported that the only possible method of obtaining

a satisfactory supply would be to lay a new pipe. The cost of the examination by the diver was $1,172.28.

In November, 1912, the pipe was excavated, broken and capped near low water on the beach at Fort Dufferin; the portion between this point and the meter was tested, and the pipe was reconnected. The expenditure for this work amounted to $87.54.

On the 8th of November, 1912, the pipe was entirely broken in at least two places. by a sunken mud scow, which was carried into the harbour several hundred feet by a heavy storm. From 13th of November to 18th of January, 1913, a diver was placed on the pipe to examine and repair it. One break was repaired, but on account of continued bad weather, repairs to the other were not completed. The island has been supplied with water by a tug boat. The cost of this examination and repair was $1,178.39.

Expenditure for the fiscal year 1912-13 was $2,438.21.

*Dredging.*

In order to provide a landing for the quarantine steamer at a small pier at Partridge island, dredging was performed by the Maritime Dredging and Construction Company, Limited.

The area to be covered by the required dredging was 3,500 square feet; the average depth of cut was 7 feet and the estimated quantity, 900 cubic yards, place measurement, or 1,125 cubic yards, barge measurement.

The dredge *Beacon Bar* removed 1,337·5 cubic yards, barge measurement, covering an area of 2,800 square feet, working on the 29th of November, 1912, and on the 20 and 22nd of February, 1913.

BEACON BAR.

*Temporary retaining wall.*

The construction of this work was authorized in order that some of the dredged material being removed from Beacon bar might be saved, to assist in the ultimate reclamation of the Beacon bar flats for railway yards and terminal facilities. The length of the wall, as built, is 616 feet, consisting of main piles driven into the ground to an average depth of 8 feet, and extending to a height of 27 feet above L.W.O.S.T; the piles are driven on 5 feet centres and sheathed with 3-inch deals, 6 feet above the ground surface, or to elevation 14 above L.W.O.S.T. The main piles are braced to anchor piles driven 5 feet centres at the rear of the wall, with two 3-inch deals secured to each pair of piles, back and front.

Riprap, to the amount of 476 cubic yards, was placed at the front of the wall, to prevent scour.

The wall has satisfactorily withstood the storms of the past season.

The cost of this work was $3,335.79.

*Wharf Construction.*

A contract with M. Connolly, Esq., dated December 12, 1912, provides for the construction of 1,960 lineal feet of cribwork and concrete wharf at a price of $760,285.

Cribwork construction was commenced last June, and suspended December 12th, owing to shortage of timber. Three cribs, totaling a length of 628 feet 6 inches, were placed in position, and two cribs, 193 feet in length each, were started. During the winter, the three sunken cribs were ballasted.

The amount expended out of this appropriation during the year is $181,894.68.

*Reconstruction of part of C. P. R. Wharf.*

In connection with construction of the new wharf on the Beacon bar, 90 feet of the old wharf adjoining had to be removed and rebuilt. The new work consists of pile

substructure and cribwork superstructure. The contract for this work was let to Mr. M. Connolly, for $14,297. Owing to rough weather during the winter, the work has suffered considerable delay, and little was accomplished. The pile driving was completed, sheathing was placed on the harbour side of the piles, and cross-walings were placed in position.

The amount expended is $3,851.15.

*Reclamation.*

A contract with the Maritime Dredging and Construction Company, Limited, provides for the filling of the area between the rear of the new wharf and the contour of 31 feet above L.W.O.S.T., also that portion of the 400-foot strip which is to be protected by sea wall, at a price of 15 cents per cubic yard.

The filling, completed at the end of the fiscal year, amounted to 42,285 cubic yards.

In the early part of the year, some dredged material was deposited on part of the property of the Crown, which has since been leased to the C. P. Ry. as a site for a new grain elevator. A quantity, amounting to 200 cubic yards, was overcast, at a cost of $100 to permit the construction of a protection cribwork wall.

The total amount chargeable to this work is $6,442.75.

*Repairs to No. 7 Shed.*

During the past year, work comprising repairs to the hatches and changes in the layout of the heating system have been carried on by the Marine Department, under authorization from this department.

With reference to the heating, it was found that the system installed when the shed was built was unsatisfactory, as the length of mains from the boiler, which is at the upper end of the shed, was too great to supply sufficient heat for the gear rooms and offices at the far end. New rooms were built at the upper end of the shed and the heating arrangement was altered to suit; the change has proved satisfactory.

*Protection Cribwork.*

In order to protect the foundations of the elevator being constructed by the C. P. Ry. it was necessary to construct a cribwork protection wall enclosing the area leased by the company from the Crown. This work was done by the C. P. Ry., and the Government agreed to pay part cost to the extent of $30,500.

The work is not yet entirely completed; a gap was left to allow the passage of barges used in the construction of the elevator. The presence of the gap is no longer required, and steps are being taken to have the work completed.

The wall, when completed, will extend for a length of 1,267 lineal feet across Government property. The structure is composed of square timber cribwork, fully ballasted with stone. The top width is 10 feet, the average bottom width is 20 feet, with a mean height of 18 feet.

*Dredging.*

Work on the contract, let on the 10th May, 1909, to the Maritime Dredging and Construction Company, for dredging the sites of proposed deep-water berths at Beacon bar, St. John harbour, was continued during 1912-13, an area of 1,024,000 square feet being dredged over. The proposed depth is 32 feet at low water in the berths, and 36 feet at low water over the crib sites.

Five dredges, the *Beacon Bar*, *Beaver*, *Cynthia*, *Iroquois* and *St. John*, were employed on the work, but were not in operation continuously.

The quantity of material removed during 1912-13 amounted to 1,831,340·3 cubic yards, scow measurement, of sand, gravel, clay, mud, old logs and stones.

Cost of work: 1,831,340·3 cubic yards ordinary spoil at ·395 cents, $723,379.44.

Work was begun on the 1st of April, 1912, and was suspended on the 31st of March, 1913.

*Intercolonial Railway Wharf.*

On the 27th of May, 1912, a contract was let to Mr. J. S. Gregory for dredging 14,000 cubic yards, place measurement, of materials, to 30 feet at low water, alongside the deep-water wharf of the Intercolonial railway, St. John harbour, in order to accommodate steamers at low water.

From the 8th of May to the 10th of June, 1912, the dredge *Keta* removed 12,722 cubic yards, place measurement, of soft mud. Of this quantity, 1,091 cubic yards were removed below grade, and were not paid for. The work done covered an area 540 feet long and 70 feet wide.

The material, measured in the scow, amounted to 13,909·9 cubic yards.

*Main Channel.*

From the 8th of April to the 30th December, 1912, the departmental dredge *Fielding* continued deepening and straightening the main channel of the entrance to St. John harbour to a depth of 30 and 32 feet at low-water. The channel is 600 feet wide and 6,000 feet long.

The quantity excavated amounted to 183,130 cubic yards, scow measurement, of stones, gravel, clay, mud, rock, boulders and sand.

The stone lifter assisted in the work of deepening and straightening the main channel by removing 68 boulders, aggregating 189·2 cubic yards. The stone lifter began work on the 8th of April, and was laid up on the 20th of September, 1912.

*Rodney Slip.*

To increase harbour accommodation, dredging was performed in Rodney slip, St. John harbour, by the Maritime Dredging and Construction Company, Limited, under the Beacon bar contract. The dredge *Beaver* was placed on the work in May, 1912, and the *St. John* and *Beaver* worked at different times between the 17th of August and the 31st of October, 1912. An area of 67,000 square feet was dredged over to a depth of 13 feet at low water.

The quantity of material removed amounted to 30,623·2 cubic yards of mud, sand, and gravel.

*Sand Point Slip.*

At Sand point, St. John harbour, berths Nos. 4 and 5 were improved, for winter port traffic, by dredging to 32 feet at low water.

In November, 1912, the departmental dredge *Fielding* removed 14,950 cubic yards, scow measurement, of soft mud and gravel.

As the *Fielding* could not work close enough to the wharf to be satisfactory, the Maritime Dredging and Construction Company, Limited, placed their dredge *Cynthia* on this work, at the Beacon bar contract rate. From the 22nd to the 25th of November, 1912, this dredge removed 2,498·5 cubic yards, scow measurement, of sand and mud.

An area of 98,000 square feet was dredged over.

The total expenditure during 1912-13 amounted to $5,478.70.

ST. JOHN RIVER AND TRIBUTARIES.

*Removal of Snags.*

On October 1, work was commenced clearing the main St. John river and its tributaries, between St. John and Fredericton, of all sunken logs, snags, or other obstructions, which were a menace to navigation, and completed the same on October 29. About two hundred and sixty-two snags or sunken logs were removed, which were either cut up and burned or hauled up on shore above high water mark.

The total expenditure for the fiscal year ending March 31, 1913, amounted to $838.50.

ST. LOUIS.

Between the 6th May and the 31st August, 1912, a wharf was constructed on the St. Louis river, about three miles above the mouth and five below the village of St. Louis, for a landing place for the fishing boats.

The wharf is built of round timber cribwork and consists of a shore approach 25 feet long, 3 blocks and 4 spans 20 feet square, and a pier-head 35 by 40 feet. The depth at the outer end is about 5 feet at low water, or 9 feet at high water, ordinary spring tides.

The expenditure for the fiscal year 1912-13, and the total to date, was $3,386.14.

ST. LOUIS RIVER.

*Dredging.*

The St. Louis or Kouchibouguacis river enters the Gulf of St. Lawrence seven miles north of Richibucto. The river is well settled on both banks, the inhabitants numbering about 2,000.

Large quantities of mussel-mud are dredged on the river and scowed to the farms, and as shoaling had occurred on the upper two and one-half miles of what was formerly the navigable section, preventing the passage of scows, also lessening the fishing in the river, dredging has been in progress during the past four seasons to make a channel about 40 feet wide, and training walls have been constructed to confine the current to the new cut.

Between the 2nd October and 25th November, 1912, a cut was made about 890 feet long, 40 feet wide and 2 to 2½ feet deep, and a breastwork was built across the mouth of a blind channel near the upper end of the cut 131 feet long, 7½ to 10 feet wide, of timber, 7 logs high at the deepest part, filled with brush, stone and dredged material, and a second breastwork 75 feet long, 10 feet wide and 3 feet high was built.

A small dredge was hired for the work at a cost of $13 a day.

The expenditure for the fiscal year was $898.54.

ST. LOUIS GULLY.

On the Northumberland Straits, about seven miles north of Richibucto.

Work done in 1912-13, consisted of making a cut 1,200 feet long across the shallowest section of the flats inside the gully. The cut is 40 feet wide and has a depth of 3 feet at low water, or 7 feet at high water, ordinary spring tides, so as to improve the channel from the St. Louis, or Kouchibouguacis river, which makes a sudden bend to the northward inside the gully and crosses a wide lagoon in a winding course. The dredging is intended to give a direct course, for the many fishing boats using the river, from the gully to the river proper.

The total length of the cut will be about 4,000 feet, the width 40 feet, and depth 3 feet at low water.

A total of 4,878 cubic yards, barge measurement, of mud, were removed from 8th August to 3rd October, 1912.

TILLEY RIPS.

Boulders were blasted at this place measuring, approximately, 65 cubic yards.

Work was commenced on September 10, and was completed on October 8, 1912.

The total expenditure for the fiscal year ending March 31, 1913, amounted to $199.21.

TOBIQUE RIVER.

A timber breakwater, ballasted with stone, was constructed in the parish of Lorne, 240 feet long, 8 to 24 feet wide and 5 feet high.

Work was commenced on August 19 and was completed on September 16, 1912.

The total expenditure for the fiscal year ending March 31, 1913, amounted to $491.16.

A timber breakwater was constructed in the parish of Gordon, 90 feet long, 17 feet wide, 6 feet high, and ballasted with stone.

Work was commenced on September 20, and was completed on October 11, 1912.

The total expenditure for the fiscal year ending March 31, 1913, amounted to $385.90.

TRACADIE.

Tracadie, Gloucester county, is a farming, fishing and lumbering village and settlement, about seventeen miles south of Shippigan gully, and twenty-three north of Miramichi bay.

The Tracadie public wharf was constructed by the department in 1894.

Between May 15, and July 31, 1912, the old covering, stringers and cap were renewed over a length of 673 feet of the approach, and on the pier-head 55 by 27 feet, thus completing the work begun in 1910.

The expenditure for the fiscal year was $1,061.54.

TYNEMOUTH CREEK.

Tynemouth creek, 21 miles east of St. John, is a small haven, dry at low water. Tides rise about 28 feet. Inside a beach of gravel and stones is a tidal basin, accessible at high water by an opening at the east end of the beach. Piers have been built on both sides for the protection of the entrance. Timber and pulpwood are shipped from this place.

During 1912-13, the channel was improved by the removal of three gravel bars, totalling 1,100 cubic yards of material, and a ledge of rock 22 feet wide, 100 feet long and approximately 3 feet in depth.

Work was begun September 24, 1912, completed November 21, 1912, and was carried on continuously.

Expenditure for the fiscal year 1912-13, was $596.16.

UPPER DERBY.

Upper Derby, Northumberland county, lies on the north bank of the Southwest Miramichi, about fourteen miles above Chatham, or nine above Newcastle.

Plans were prepared during the fiscal year, and a foreman appointed for the construction of a landing wharf, to cost about $2,000 at the 'Bear Trap,' so-called, but as $1,000 was asked for the site at this point, no work was done, and a new site will be chosen.

UPPER LINCOLN.

A low-water wharf was constructed at this place by the provincial Government, the federal Government paying the usual half cost, including inspection, for the same. This wharf has a pier-head of cribwork 68 feet long by 48 feet wide, together with a stone and earth fill approach 62 feet long by 18 feet wide. The front of the wharf has a surface of concrete extending back 29 feet, the remaining portion of the top being covered with gravel.

The total expenditure for the fiscal year ending March 31, 1913, amounted to $954.45.

UPPER MAUGERVILLE.

On December 26, Contractor F. L. Boone commenced work on the construction of a high-water wharf at Upper Maugerville. Very little work was performed after February, on account of the freshet. The pier-head is completed, with the exception of the floor stringers, planking and cap.

The total expenditure for the fiscal year ending March 31, 1913, amounted to $2,160.09.

UPPER SALMON RIVER.

Upper Salmon river, otherwise called Alma, is situated five miles from Rocher bay, and two miles from Herring Cove, on the north shore of the Bay of Fundy. Five million feet of manufactured lumber are shipped annually from this place. On the west side of the river mouth, the department has built three piers, 30 feet wide on top, respectively 180, 240 and 104 feet in mean length, each being an extension of the other.

During 1912-13, a pier was built, by contract, on the east side of the river. The work consists of a round cribwork, 150 feet long, 19 feet wide on top, sheathed on both sides and on the outer end, filled with ballast, and covered. This work has had the desired effect in removing the gravel bar which was forming across the channel.

Work was begun September 13, 1912, completed November 30, 1912, and was carried on continuously.

Expenditure for the fiscal year 1912-13 was $5,587.

WELCHPOOL.

Welchpool, a fishing village of 600 inhabitants, is situated on Campobello island, forming part of the county of Charlotte, fifty miles southwest of St. John, in a direct line, and fourteen miles south of St. Andrews. Spring tides rise 21½ feet, neaps 18½ feet. A wharf of round cribwork, 279 feet in total length, was built at this place in 1909-10.

During 1912-13, a ledge of rock and some boulders were blasted and removed from beside the wharf, and the seaward side of the work was sheathed for a distance of 279 feet, from low water to the top, in order to keep the sea from running through the work, and to protect boats lying along the inside. Eight hardwood piles were procured, to be used as corner fenders.

Work was begun November 4, 1912, suspended March 11, 1913, and was carried on almost continuously from November, 1912 to January, 1913.

Expenditure for the fiscal year 1912-13 was $997.64.

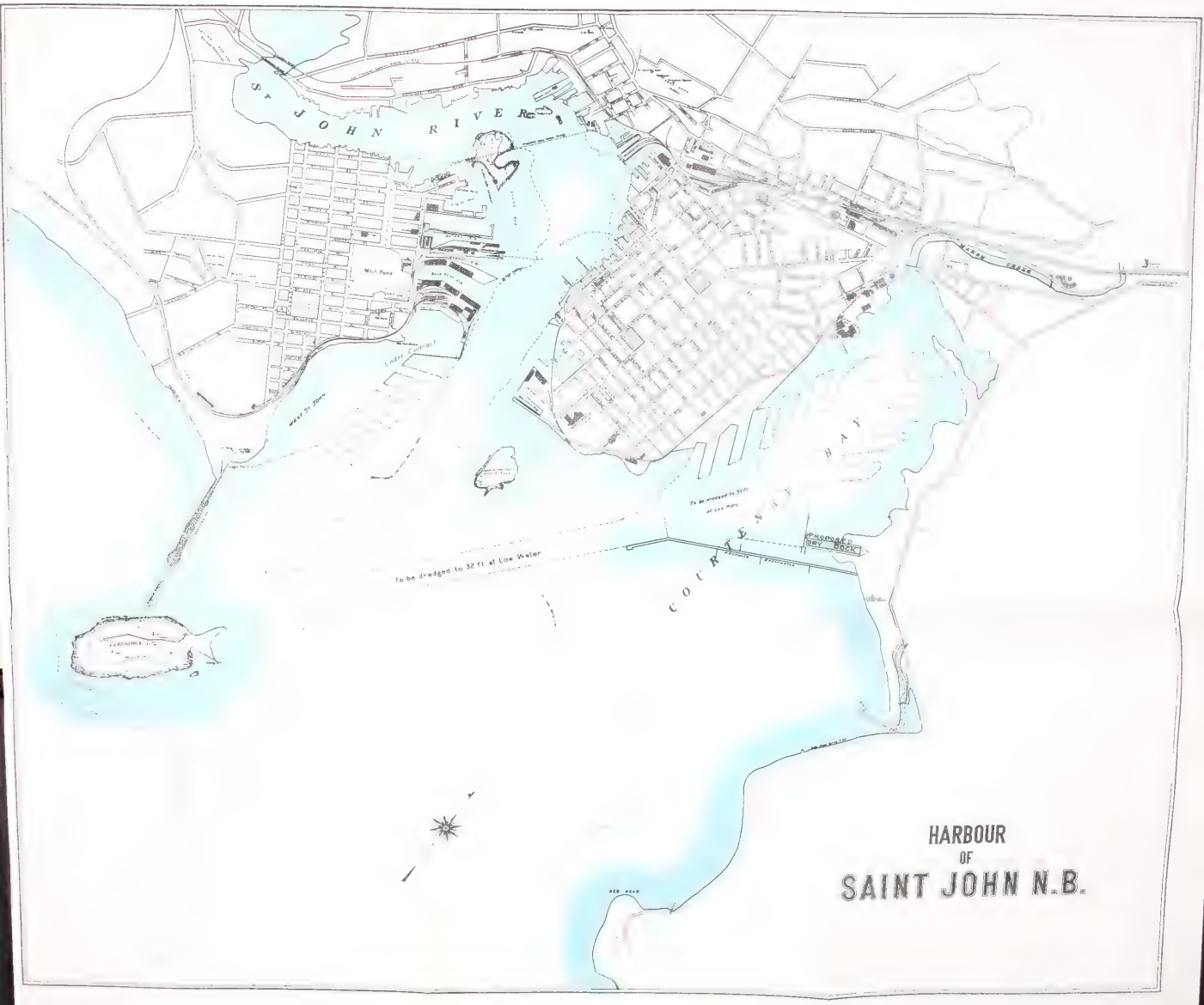
WHITEHEAD.

*Dredging.*

Whitehead is situated on the north bank of Kennebecasis river, just between Chapel Grove and Moss Glen, in Kings county.

The basin and entrance to the wharf was to have been cleaned up to a depth of 9 feet below low water. This work was performed by the New Brunswick Construction Company at 30 cents per cubic yard, scow measurement. The dredge *New Brunswick No. 2* commenced work on August 17 and suspended on the 21st of the same month. Operations were resumed on October 24 and suspended again on October 31, on account of the close of navigation. Very difficult dredging was met with; the material removed consisted of sand, mud, stone and heavy gravel. During the period worked, the dredge removed 490·5 cubic yards, scow measurement, of class "B" material.

The total expenditure, including inspection, for the fiscal year ending March 31, 1913, amounted to $186.15.




# HARBOUR OF SAINT JOHN N.B.

WOODLANDS.

Woodlands is situated at the head of Beaver harbour, about one and a half miles from Beaver Harbour, by water, and four miles by road. Pennfield station, on the New Brunswick Southern Railway, is about four miles distant. At Woodlands, the department built a pile wharf 200 feet long and 20 feet wide, with a pier-head 60 by 40 feet, standing in 12 feet at high water.

During 1912-13, three boulders were blasted and removed from the berth alongside the wharf, and 48 fenders were placed on the work.

Work was begun March 17, 1913, completed March 31, 1913, and was carried on continuously.

Expenditure for the fiscal year 1912-13 was $197.26.

## PROVINCE OF QUEBEC.

AMHERST.

Eight tiers were added to the crib built last year. A small crib of 55 feet long by 25 feet wide was built and sunk into position towards the outside end of site of proposed breakwater at north side of harbour entrance.

Expenditure $9,344.94.

*Dredging.*

During the fiscal year 1912-13, dredge *No. 4* worked in the channel leading into Amherst harbour, Magdalen island.

The object of the work was to allow the sinking into proper position of the first crib of a training pier so as to prevent No. 1 channel from shifting. The said object was not attained, and the crib had to be placed in winter quarters, anchored and partly ballasted, to prevent any accident.

A total of 75,000 cubic yards of sand, scow measurement, had been removed. The measurement, in situ, gave, including the work done in the fall of 1911, 32,186 cubic yards.

ANGERS.

Angers, or L'Ange Gardien, population 1,800, in the county of Labelle, is situated on the C. P. Ry., north shore line, thirteen miles below Ottawa and three-quarters of a mile back from the river.

An expenditure of $20.13 was incurred in the spring for temporarily repairing the dock which was damaged by the moving of ice on the 15th of April, seven piles in the upstream face of the landing-head and the outer bent in the approach being broken.

Work for permanent repairs and strengthening was performed from February 10th to 27th. Repairs consist in replacing the seven broken piles, bracing five bents and replacing one cleat and one fender.

The head of dock was reinforced in driving an additional pile 3 feet from the upstream face and in line with the first and second pile of two consecutive bents. Each set formed by these three piles were ice-braced. This kind of reinforcement was used from the second to the eighth bent.

In the approach, for the six outer bents, two piles, 3 feet from face and 3 feet centre to centre, were driven and bolted together to the pile of approach.

Expenditure to March 31, $601.63.

ANSE À L'EAU.

Anse à l'Eau, in Tadousac, Saguenay county, is about one mile above the mouth of the Saguenay river, and situated upon the northeast side.

During the last fiscal year, the sum of $499.59 has been expended in renewing the flooring and stringers of the wharf.

Work started June 7, and discontinued June 28.

ANSE AUX GASCONS.

Anse aux Gascons, in Bonaventure county, is situated on the north shore of Baie des Chaleurs, seven miles east of Port Daniel.

Anse aux Gascons is considered one of the best fishing stations of the baie. The fishing consists in cod and lobster, and a hundred barges or fishing boats are used for that purpose.

During the fiscal year 1912-13, the pier, commenced in 1911-12, and which had suffered damages, was rebuilt and completed. This pier, running from the wharf in a westerly direction, is 60 feet in length by 20 feet in width. This work was built in open-face cribwork, sheathed with three-inch plank, with a flooring of three-inch deals.

Amount expended, $1,493.93.

ANSE ST. JEAN.

Anse St. Jean, Chicoutimi county, is situated on the south shore of river Saguenay, twenty-five miles above its mouth.

During the last fiscal year, the sum of $143.24 has been expended towards general repairs to the wharf.

Work started September 9, and was discontinued September 14.

AYLMER.

The departmental dredge *Deschênes* worked at Aylmer, on lake Deschênes (May 28 to November 21), making cuts aggregating 8,814 lineal feet, to a width of 24 feet, in westerly channel and turning basin in front of Government and Richie wharfs, to facilitate landing at wharfs as well as towing logs to Richie mills.

There were 23,603 cubic yards of sand and clay, scow measure, removed to a least depth of 9 feet, elevation 180, and spoiled in 49 feet of water, three-quarters of a mile from Richie's dock.

BAIE-ST-PAUL.

Baie-St-Paul is a village in the county of Charlevoix; its population is 1,500. It is situated on the north shore of the river St. Lawrence, sixty miles below Quebec. It is built on either sides of the river du Gouffre which is tributary of the St. Lawrence, and empties into a large bay three miles wide. The bay is dry at low tide.

During the present fiscal year, a hole 50 feet long by 20 feet high, which had been made by the ice into the face timbers of the west side of the wharf, was thoroughly repaired and the ballast stone which had been removed was replaced; 389 square yards of flooring were renewed; 150 feet of coping were replaced. Minor repairs were effected to the east side slip; the railings of the wharf were repaired and readjusted: 10 fenders were also replaced.

The work was commenced on the 1st July 1912, and abandoned on the 31st August, 1912.

The expenditure for the past fiscal year, 1912-13, amounts to $1,994.01.

*Dredging.*

The object of the dredging done is to permit the Royal Mail steamers, drawing 15 feet of water, to land at the wharf at all stages of the tide; 6,600 cubic yards of hard-pan were removed from the west side of the wharf.

BARACHOIS DE MALBAIE.

Barachois de Malbaie is a large parish and municipality situated at the head of Malbaie bay, some twelve miles east of the county town, Percé.

Barachois, on account of the large area of rich farming lands situated along four rivers that form Barachois, and the important lumber firms that have built their mills along the Barachois, and on account of its first-class fishing harbour, now that the Government has started a training pier to improve the entrance, may be considered the most promising centre in Gaspe peninsula.

Until the Government started the training pier, under construction, the fishing boats could not safely enter or go out of the harbour at falling tide and at low tide, on account of shifting sand bars.

They had to remain outside and wait for the rising tide to come. The work was commenced in 1904.

During the fiscal year 1911-12, a curb of 90 by 30 feet had been placed in position, built up to 3 feet above low water level, ballasted, and covered over for winter.

During the last fiscal year, the crib was completed to coping and some ballast placed on roadway.

Expenditure, $3,075.55.

BATISCAN.

*Dredging.*

Batiscan is situated on the north shore of the river St. Lawrence, 60 miles above Quebec. It is the centre of all the traffic of the surrounding district. The Royal Mail steamers call twice daily.

Dredging was performed to the northeast and southeast of the wharf in order to allow the Royal Mail steamers, drawing 12 feet of water, to land at the wharf at all stages of water.

A total of 55,504 yards of sand and soft clay were removed.

BEAUPORT.

Beauport is situated on the north shore of the river St. Lawrence, in the county of Quebec, some three miles below Quebec.

During the present fiscal year, the two top tiers of the face timbers, which were rotten, were renewed, and a portion of filling west side, which had been emptied by the swell of the sea, was refilled with ballast stone. The macadam flooring was partly renewed.

The work was done from May 6 to 28, and August 28 and 29, and on September 5, 1912.

The expenditure for the present fiscal year, 1912-1913, amounts to $1,371.59.

BELOEIL.

Belœil station, a post office in Verchères county, on the north side of the Richelieu river, with a station on the G. T. Ry., twenty-one miles northeast of Montreal. An elegant iron drawbridge, 1,200 feet long, crosses the Richelieu. There is an express office, one store, one hotel, one saw-mill, one bank, and the works of the Hamilton Powder Company.

*Booms.*

The Belœil booms, placed by the department in order to facilitate the passage of boats and barges through the G.T. Ry. swing bridge over the Richelieu river, were repaired during the month of July.

One of these booms, 80 feet in length, had to be entirely renewed, and another length of 100 feet was considerably repaired and put in place.

This work was done by day labour.

Expenditure, $444.18.

*Wharf.*

On August 5 last, an order in council was passed granting authority to purchase from estate Firmin Parizeau, for the sum of $1,500, a certain wharf property at Belœil which was required to provide public landing facilities. In September last, the construction of a wharf was begun; it consists in a close-faced head-block of a length of 72 feet, a width of 21 feet and a height of 8 feet, resting on 43 piles properly driven and evenly razed, one foot above low water level, strongly anchored with five anchor bolts, 1½-inch diameter, 30 feet long, strongly tied on 12-inch channels embedded five feet in the earth.

On November 30, the work was completed, less part of stone filling, stringers and flooring. During the winter months, stone was hauled, the head-block was filled and the stringers and flooring completed.

In addition, a row of 15 piles has been driven from the G. T. Ry. bridge abutment to the wharf, a distance of 86 feet, firmly braced and to which walings have been secured to facilitate the passage of boats through the bridge.

This work was carried out by day labour.

Expenditure, including purchase price, $4,897.39.

*Dredging.*

For five hours on June 22, departmental dredge *Richelieu* was leased to Mr. Jos. Rainville, M.P., for some private work, at a rental price of $9.50 an hour. Site of dredging immediately upstream of government guide pier at Belœil bridge. Area, 33 by 55 feet, or 1,815 square feet dredged down to 9 feet below low water, and representing 160 cubic yards. Dumping grounds a quarter of a mile distant.

The object of this dredging was to provide a basin for Mr. Rainville's boat house.

BERGERONNES.

Bergeronnes, Saguenay county, is a post village, situated on the north shore of river St. Lawrence, some eighteen miles below Tadousac.

During the last fiscal year, the sum of $599.96 was expended in making repairs to the wharf, which consisted in the renewing of flooring and stringers.

Work started on June 10, and was discontinued July 31.

BERTHIERVILLE.

Berthierville (Berthier en haut), a thriving river port and incorporated town in Berthier county, on the shore of the St. Lawrence, and a station on the C. P. Ry. It contains two churches (Roman Catholic and English), twenty stores, three hotels, two saw-mills, branches of the Provincial and Hochelaga banks, one waterworks, one convent, one college, one grammar school, one ladies' seminary, telegraph and express offices, also Melcher's gin distillery, Population, 1,364.

An order in council was passed on the 8th of November, 1910, authorizing the purchase, from Mr. Hermas Roch, for the sum of $3,000, of a wharf property at Berthierville. On the 25th of March last, the department had entered into a contract with Mr. Eugene Patenaude for the construction of a wharf, on the site acquired, for the sum of $14,721.70.

The structure consists of:—

(a) A close-faced crib, 180 feet long, 16 feet wide, 10 feet high, sunk in 9 feet at low water level, placed alongside the bank;

(b) A superstructure of monolithic concrete wall, 10 feet high by 4 feet wide at the base, and 2 feet wide at top;

(c) Stone filling of the substructure and to 2 feet below the top of the concrete wall, and earth filling between the crib and the bank;

(d) A layer of 6 inches of broken stone from the concrete wall to the street;

(e) A concrete flooring 6 inches thick, 180 feet by 27 feet.

The work was started on July 12 last. The old wharf was entirely removed, the excavation for the new works was made, the close-faced crib was sunk, and the filling has been progressing up to date.

Expenditure, $5,843.30.

*Dredging.*

From May 10 to August 24, dredge *Prince Willie;* from June 17 to June 26 and from Aug. 18 to Sept. 3, dredge *Prince Guy;* and from Aug. 9 to Sept. 20, dredge *Duke of York;* all the property of the W. J. Poupore Co., worked under contract in the river St. Lawrence northern channel leading to Berthierville.

The *Prince Willie* removed 58,588 cubic yards of sand and clay. Width of cuts, 30 to 50; average depth, 2 to 5 feet; distance advanced, 10,161 feet; actual dredging hours, 1,062.

The *Prince Guy* removed 5,519 yards of same material. Width of cuts, 35 feet; average depth, 1½ to 3 feet; distance advanced, 1,741 feet; actual dredging hours, 151½.

The *Duke of York* removed 19,337 yards of same material. Width of cuts, 26 to 27 feet; average depth, 2 to 5 feet; distance advanced, 4,830 feet; actual dredging hours, 398.

Total quantity removed, 83,444 cubic yards, scow measurement, at a contract price of 14 cents a yard.

Channel was dredged 100 feet wide, besides basin, and down to 10 feet below extreme low water level. Dumping grounds just within 3½ miles.

The object of this dredging was to provide easier access to Government wharf at Berthierville.

BERTHIER (EN BAS).

The village of Berthier, in the county of Montmagny, is on the south shore of the St. Lawrence, twenty-nine miles below Quebec. A large traffic in farm produce is carried on through the coasting steamer *Champion,* which plies daily between Quebec and Berthier.

Spring tides rise 21 feet; neaps, 13 feet.

During the fiscal year 1912-13, the sum of $499.96 was expended in making small repairs to the wharf.

The work consisted in replacing a few fenders and two mooring posts.

Some repairs were also made to the flooring. The damaged sheathing was replaced on both side of the wharf.

The wharf was badly damaged during the severe storms of November last.

BIC.

Bic, on the south shore of the St. Lawrence, in the county of Rimouski, 170 miles below Quebec. It is an important village, a favourite summer resort. Bic harbour offers a natural shelter for vessels of small draught.

Spring tide rises 17 feet; neap tides, 9 feet.

The Government owns two wharfs at Bic; one, called the old wharf, which is located on the south shore of the harbour, and another at the extremity of the eastern side, at Pointe à Côté.

The south shore wharf was repaired during the fiscal year 1912-13. A portion of the superstructure between spans was renewed and some of them, built last year, were completed. The spans are 25 feet in length by 22 feet in width.

Amount, $993.71.

Pointe à Côté wharf, during the fiscal year, 1912-13, was repaired.

An amount of $400 was authorized to place stone on the northeast side to prevent the disintegration of the wharf; one hundred and fifty feet from shore, easterly, have been completed. The approach to the wharf was levelled and ditches were made on both sides. The flooring of the old portion was repaired.

Amount expended, $399.53.

BONAVENTURE ISLAND.—(PETITE BONAVENTURE).

Bonaventure island, in the county of Bonaventure, is situated on the north shore of Baie des Chaleurs.

It is a fishing settlement between Bonaventure village and St. Charles de Caplan.

During the fiscal year 1912-13, small repairs were made to the breakwater.

Amount expended, $84.32.

BREWER'S CREEK.

Brewer's Creek is a village in Labelle county, on Rivière du Lièvre, nine miles above Buckingham.

A freight shed, 12 by 12 feet, and a gangway plank, 12 feet wide by 15 feet long, were built on the landing float at Brewer's Creek, and two nigger heads were placed on float, May 20 to June 28.

Expenditure to March 31, $124.10.

BRYANT'S LANDING.

Bryant's wharf, Brome county, is situated on the west side of lake Memphramagog, five and one-half miles by water, and eight miles by road, from Magog, the nearest railroad station on the through line of the Canadian Pacific railway. Two steamers, making daily round trips between Magog and Newport, Vt., call there from the 15th of May to the 20th of September. During the time that the boats are running, the wharf is used by the population for a distance of three miles in any direction as a means of transport for passengers and freight of all sorts up and down the lake.

Since the boats were enabled to call, by the reconstruction of the wharf by the Government, the population in the vicinity during the summer is increased by about 100 people, who spend an average of a month each at this place.

On September 9, 1912, authority was received to expend the sum of $350 by days' labour.

Work was commenced on November 16, completed on the 29th of November, 1912, and consisted in diverting the course of the water which was running along the roadway, regrading the approach with stone and gravel and repairing the riprap along the approach which had been eroded.

In the execution of the above works some 480 feet b.m. of lumber, 250 loads of stone and gravel were used.

During the fiscal year, 1912-13, the total expenditure was $349.98.

BUCKINGHAM.

Buckingham is a village in the county of Labelle on the Rivière du Lièvre. Population, 3,850.

Repairs to float, which consisted in putting a new flooring in freight shed and repairing gangway, were made May 7 to May 10.

Expenditure to March 31, $40.95.

CABANO.

The village of Cabano, in the county of Temiscouata, is situated on the west shore of lake Temiscouata, and is an important station of the Temiscouata railway, about forty-five miles south of Rivière-du-Loup.

The firm of Donald Fraser & Sons operates extensive saw and shingle mills at Cabano, and several other smaller firms are also operating mills, which makes the lumber traffic very active at that place.

From September 1 to October 1, 1911, the landing pier, which was commenced the previous year by the erection of an outside head-block, was connected with shore by the construction of a length of some 150 feet of cribwork with high and low level flooring for the different stages of water levels on the lake. During the months of August and September, 1912, an 'L' wing, 100 feet in length, 30 feet in width, on an average height of 14 feet, was constructed on the north side of the head-block, to provide more floor space and to enlarge the area between the shore and the wharf, which is to be filled with mill refuse, and be afterwards available for piling lumber.

A movable floating pontoon, 30 feet long and 25 feet wide, was built and placed at the outer end of the wharf in such a manner as to be easily taken away in the fall and replaced in the spring for the use of boats drawing more than 8 feet of water.

The expenditure for the fiscal year is $2,500.

CANNES DE ROCHES.

Cannes de Roches is a small fishing cove some five miles northwest from Percé, and two miles from Corner of the Beach. All the fishermen, from Corner of the Beach and from the falls of Percé, seek shelter at Cannes de Roches in stormy weather. The breakwater of 175 feet, built in 1907, was to be lengthened 90 feet on account of the number of boats to be sheltered.

During the last fiscal year, the crib built in 1911 was secured into position, ballasted and built up to 4 feet above low water level.

Expenditure, $1,027.63.

CAP-À-L'AIGLE.

Cap-à-l'Aigle is situated some six miles below Murray Bay, in the county of Charlevoix. This place is one of the best frequented summer resorts.

During the present fiscal year, some minor repairs were made to the movable slip of the wharf at different times during the summer season, under the direction of the wharfinger.

The expenditure for the present fiscal year, 1912-13, amounts to $26.80.

On the 26th December, 1912, a contract was entered into with Mr. Napoleon Trudel, for the construction of a new head-block to the wharf. The contract price is $29,330.85.

Materials amounting to $1,770.30 were received in connection with this work.

CAP CHAT.

The first municipality of the county of Gaspé on the St. Lawrence river shore, forty-five miles below Matane, where terminates the Matane railway, is a most progressive place, with great possibilities for a rapid growth if it was afforded harbour and landing facilities, which are badly lacking presently. The timber limits along the Cap Chat river, among the best in the Gaspé peninsula, have not been operated yet with the exception of white birch for spoolwood. The richest and best of farming lands are to be found in the valley of the Cap Chat river, back to the Notre-Dame mounts.

Great difficulty is experienced in shipping on account of the sandbars and shallow entrance at the mouth of the river.

It was decided that a training pier, constructed so as to locate and force the current in one place to deepen the main channel to 12 or 14 feet at L.W.L., would greatly benefit the place. 200 by 22 feet at top of a cribwork training pier with a batter of 1 in 8 was built during the last fiscal year, fully ballasted and completed to coping with 2 feet above old pier at shore end.

Expenditure, $5,140.89.

CAPE COVE.

Cape cove, Gaspé county, is an important fishing station on the coast of Gaspé, some 9 miles south of Percé, the shire town. It is a port of call for steamers plying between Montreal and Pictou, and between Dalhousie and Gaspé Basin.

In 1905, the department decided to construct a landing pier, and in August, 1906, a contract was entered into with Mr. John Burns, for the construction of a length of pier, 400 feet, for the sum of $13,000. The work was completed in November, 1906.

Last spring, a contract was entered into with Jos. Roméo Toupin for the construction of 300 feet to complete pier, for the sum of $24,500.

During the last fiscal year, a length of 150 feet was built to within four feet of coping.

Last estimates amounted to $8,982.

CAPLAN RIVER.

Caplan river, situated on the north shore of Baie des Chaleurs, Bonaventure county, is an important fishing settlement, in the municipality of St-Charles-de-Caplan.

A breakwater, built on both sides of the river, is 280 feet in length on east side, and 245 feet on west side, including an outer block of 60 feet in length not yet completed.

During the fiscal year, 1912-13 the breakwater was raised and filled with stone.

Amount expended, $100.25.

CAP SANTÉ.

Cap Santé is situated on the north shore of the river St. Lawrence, in the county of Portneuf, some thirty miles above Quebec.

During the present fiscal year, the flooring of the wharf was practically all renewed; four mooring-posts and one fender were replaced; the part of the flooring which is of macadam was completely repaired.

The work was executed at different times during the summer season.

The expenditure for the present fiscal year, 1912-13, amounts to $295.82.

CAP ST. IGNACE.

The village of Cap St. Ignace is situated on the south shore of the St. Lawrence, in the county of Montmagny, forty-six miles below Quebec.

The parish, population about 3,000, contains several large stores, saw-mills and a textile fabric mill.

The trade in farm produce is very active, and there is also a considerable lumber traffic.

As the beach is very shallow at Cap St. Ignace, there was not a sufficient depth of water available at high tides to accommodate the traffic, and it was found desirable to extend the wharf by a length of 500 feet.

In April, 1912, a contract was entered into for the construction of an extension to the present wharf for the sum of $11,400. The work consisted in an open-faced

cribwork, 500 feet long, 22 feet wide for a length of 414 feet and 40 feet wide for the remaining 86 feet or head-block.

On the request of parties interested, and to prevent the accumulation of sedimental deposits, some changes were made in the original plans; four openings, 20 feet long and 100 feet apart, were left in the structure.

The work commenced on the 1st of May, was completed by 1st November, 1912.

The sum of $78.80 was also expended in making some improvements to the approach.

The total expenditure for the fiscal year is $11,961.80.

### CARLETON.

Carleton, in Bonaventure county, is situated on the north shore of Baie des Chaleurs. It is an important farming place and a summer resort.

During the fiscal year, 1912-13, the hardwood sheathing of the two outside corners was renewed; the planking was also renewed at many places, the shed repaired, and the filling with stone was completed.

Amount expended, $907.32.

### CAUGHNAWAGA.

*Dredging.*

Caughnawaga, or Sault St. Louis, is a post village in Laprairie county, on the south shore of the St. Lawrence, opposite the town of Lachine, ten miles west of Montreal or fifteen miles east of Beauharnois. The Canadian Pacific railway has a station here, called Adirondack Junction, half a mile from village. It is almost entirely inhabited by Indians of the Iroquois tribe. It has Roman Catholic and Methodist churches, thirteen stores, one lacrosse stick factory and telegraph and express offices. Population, 2,300.

From August 26 to September 12, departmental dredge *No. 3* deepened, to 6 feet, basin adjoining Government wharf. Quantity removed, 1,082 cubic yards of hard-pan, boulders and stones. Width of cuts, 25 feet; depth, 1 to 3 feet; distance advanced, 531 feet; actual dredging hours, 118½. Part of dredged material was dumped one mile distant in the river, and the rest cast over on wharf. The latter material was later levelled off at a cost of $100 and used as a filling back of said wharf.

Object of dredging was to provide mooring basin, and easier access to Government wharf.

### CHÂTEAU RICHER.

Château Richer is situated on the north shore of the River St. Lawrence, some fifteen miles below Quebec; its population is 1,800.

During the present fiscal year, the extension to the wharf was completed; all the fenders placed, also the ladders.

This extension to wharf has the following dimensions: 100 feet long by 45 feet wide by 20 feet high.

The work was commenced on October 21, and completed on November 28, 1912.

The expenditure for the present fiscal year, 1912-13, amounts to $623.06.

### CHICOUTIMI.

The town of Chicoutimi, in the county of the same name, is situated on the south shore of river Saguenay, at the head of navigation, some seventy-one miles above Tadousac, and is the terminus of the Quebec and Lake St. John Railway. The Richelieu and Ontario Navigation Co. maintains a daily service between Quebec and Chicoutimi.

During the last fiscal year, the sum of $1,099.04 was expended towards repairs, which consisted in repairing two sewers passing through the wharf, and filling voids caused by the settling down of the filling in the new portion of the wharf.

In order to permit dredging, in front of the wharf, to a depth of 18 feet below extreme low water, some piles were driven 15 feet into the bottom alongside the front of the wharf, at a cost of $1,246.64. The completion of the piles driven had to be suspended in November on account of frost, and during the winter; a sum of $1,126 was expended in purchasing pile-timbers to complete the work at the opening of navigation.

Work started April 1 and was discontinued March 31.

The expenditure for the fiscal year 1912-13, was $3,471.68.

### COMO.

*Dredging.*

Como, a post village in Vaudreuil county, situated on the south shore of the Lake of Two Mountains, opposite the Indian village of Oka, and on the Ottawa branch of the C.P.Ry., thirty miles from Montreal. It is a landing place of the Ottawa river steamers, and has an Episcopal church and a telephone office. Population, 628.

From May 7th to May 25th, departmental dredge *St. Louis* worked at Como, removing part of material cast over the preceding autumn by same dredge in the making of a 4-foot channel opposite public road leading to railway station. Quantity, 2,875 cubic yards of clay. Width of cut, 30 feet; depth, 3 to 4 feet; distance advanced, 790 feet; actual dredging hours, 125. Dumping grounds, one-half to three-quarters of a mile.

Object was to provide easier landing facilities to the ferry connecting Como with Oka on the opposite shore of Lake of Two Mountains.

### CONTRECŒUR.

Contrecœur, an incorporated village and station on the Quebec, Montreal and Southern Ry. in Verchères county, on the St. Lawrence river. It contains one Roman Catholic church, five stores, one hotel, one saw-mill, three cheese and butter factories, three shoe factories, telegraph, express and telephone offices, and seven schools. The R. and O. Navigation Co.'s boats call three times per week. A fine aqueduct was inaugurated here in 1903. Population of parish, 1,760.

The wharf consist of:—

1. A close-faced crib head-block 82 feet long; outside face, exclusive of ice-breaker, 14 by 32 feet, 40 feet wide, standing 17 feet high in 6 feet of water at lowest level;

2. A close-faced crib approach 180 feet long, 20 feet wide at top, with ice-breaker all along.

Work was commenced on the 21st of October, and completed on 30th of November. It consisted in stone filling the head-block, the construction of a slip at the inner eastern face of the head-block, and placing a movable guard railing on the eastern side of the approach. The road leading to the approach was lowered and improved, and a cement sidewalk of about 200 feet long, four feet wide, was made.

Expenditure, $1,266.85.

### COTEAU LANDING.

Coteau Landing, the chief town of the county of Soulanges, situated on the St. Lawrence river, and on the G. T. Ry., one and one-half miles from Coteau Station, thirty-six miles from Montreal. It contains one Episcopal church, grist mill, five stores, 4 hotels, one grain elevator, telegraph and express offices, and is the chief grain shipping port of the county. During summer, it has communication with Montreal by

steamer. The Soulanges canal, connecting lakes St. Francis and St. Louis, starting near the G.T.Ry. bridge at Coteau and terminating near the junction of the Ottawa and the St. Lawrence, passes in front of the town.

The Coteau Landing wharf consists of:—

1. A close-faced crib head-block, 271 feet 8 inches long, outside face, besides 27-foot ice-breaker, 25 feet wide, standing 15 feet 5 inches high in 10 feet of water at low level;

2. A close-faced crib approach 92 by 25 feet;

3. A crib and span approach 790 feet long, from 12 to 24 feet wide, formed of 26 cribs of timber below and concrete above low water, and supporting steel 'I' beams and pine flooring.

4. A freight shed, 41 by 20 feet, at upstream intersection of head-block and approach.

The rebuilding in concrete of the whole headblock began in October, 1910, and had been nearly completed in May of this year, comprising an encircling wall of reinforced concrete, 6½ feet high by 3 feet thick at the base and 1½ feet at the top. There remains 90 feet of this concrete wall to complete.

The completion of this wall, together with a concrete floor area of 7,300 square feet, and 6 pillars under the freight shed are included in the proposed estimates of 1912-13. These will make of this wharf a permanent construction in first class order. An appropriation of $2,500 has been expended for this work, of which $1,435 were paid for labour performed and material purchased during the months of January, February and March last. The balance of $1,065 was spent in April and May.

### CÔTE STE. CATHERINE.

Côte Ste. Catharine is a landing place on the south shore of the St. Lawrence, in Laprairie county, about five miles west of the village of Laprairie. A steamboat ferry plies daily between this place and Verdun, on the opposite side of the river.

The wharf was commenced in October, 1899, and completed in June following, at a cost of $3,199.46. It consists of a close-faced crib head-block, 82 feet long, 20 feet wide, terminated at the upper end by an ice-breaker, and an approach, 115 feet long, 18 feet wide, also of close-faced crib work. The outer face of the block stands in 6 feet of water at low level.

During the month of May, the sum of $20.56 was spent to procure 3-inch plank to repair the flooring of the wharf.

### CRANE ISLAND.

Crane island or Isle aux Grues, in the county of Montmagny, is an island of some 800 inhabitants, lying in the St. Lawrence, opposite Cap St. Ignace, thirty miles below Quebec.

The community is chiefly engaged in farming; a great number of the inhabitants own schooners or other vessels.

The sum of $149.01 was expended during the fiscal year 1912-13 for the repairing of the flooring so that the wharf may be kept open to the public, without danger, until further repairs are made.

### CROSS POINT.

Cross Point, in Bonaventure county, is situated on the north shore of the Restigouche river, opposite the town of Campbellton, N.B. A ferry boat plies between Cross Point and Campbellton every half an hour.

During the fiscal year 1912-13, the slip was partly renewed, as was a portion of the sheathing and of the flooring of the wharf; some piles were also driven at the head of the wharf. Other small repairs were done to put the wharf in good order.

Amount expended, $462.51.

DESCHAMBAULT.

Deschambault is situated on the north shore of the River St. Lawrence, in the county of Portneuf, forty miles above Quebec.

During the present fiscal year, minor repairs were made to the flooring of the wharf; also four fenders were renewed.

The works were done at different times during the summer season.

The expenditure for the present fiscal year, 1912-13, amounts to $230.85.

DESJARDINS.

Desjardins, in Pontiac county, is located on Allumettes island, north shore of Ottawa river, opposite town of Pembroke, Ontario.

Repairs were made to wharf, September 21 to October 1. A strip 2 feet wide on both sides of approach was planked over lengthwise with 2-inch lumber. A new flooring of 3-inch plank was placed on westerly section of landing head, 30 by 70 feet. The outside walls of shed received one coat of paint and the roof and trimmings two coats.

Later repairs were made at the end of March consisting in replacing five 12 by 12-inch by 12 foot fenders.

Expenditure to March 31, $531.47.

DODD'S LANDING.

Dodd's landing, in Labelle county, is located on the Rivière du Lièvre, fifteen miles above Buckingham.

A freight shed, 12 by 12 feet, and a gangway plank, 12 feet wide by 15 feet long, were built on the floating landing, also two nigger-heads were placed on the float, July 17 to 29.

Expenditure to March 31, $121.10.

DORION.

*Dredging.*

Dorion, or Vaudreuil Station, a post village in Vaudreuil county, and a station on the G. T. Ry. and C. P. Ry., twenty-four miles from Montreal. It contains three stores and two hotels. Population, 300.

From November 11 to November 23, departmental dredge *No. 3* worked at Dorion, beginning a 5-foot channel, 50 feet wide, opposite public road separating the Labelle and MacKay properties.

Quantity removed, 2,419 cubic yards, scow measurement, of hard clay. Width of cuts, 15 to 30 feet; depth, 3 to 6 feet; distance advanced, 456 feet; actual dredging hours, 60½. Dumping grounds, three-quarters of a mile away.

Object of dredging is to improve landing facilities for ferry between Dorion and Ile Perrot, opposite.

On account of lateness of season, dredging operations had to be suspended on November 23, leaving some 1,660 yards still to be removed.

DORVAL.

*Dredging.*

Dorval station, a post village in Jacques Cartier county, and a station on the G. T. Ry. and C. P. Ry., ten miles from Montreal. It contains two churches (Episcopal and Roman Catholic), one store, and one hotel. Population, 481.

From Sept. 16th to November 8th, departmental dredge *No. 3* worked at Dorval, completing the 8-foot basin, begun in the autumn of 1911, opposite the Royal St. Lawrence Yacht Club house.

Some 11,896 cubic yards, scow measurement, of clay and sand were removed. Average widths of cuts, 20 to 25 feet; depths, 1 to 6½ feet; distance advanced, 2,854 lineal feet; hours of actual dredging, 297. Dumping grounds, one and one-half miles distant.

Object of dredging was to provide a basin large enough to accommodate the numerous sail and motor boats of the club members.

### DOUGLASTOWN.

Douglastown, situated in Gaspé bay, is a village of fishermen and farmers, standing on the rising ground on the south side of the entrance to the St. John river. Its population is between 1,600 and 1,800.

Two hundred and ninety-five feet of the shore end of the landing pier were built to coping. This part consists of 22 by 27 foot cribs, with 22 feet spaces between, built on a foundation of fascine mattresses laid on the sand.

Expenditure, $5,199.90.

### DOWKER'S ISLAND.

*Dredging.*

Dowker's, or Lynch island, is situated at the head of lake St. Louis, between Ile Perrot and the island of Montreal, and about three miles downstream, or east, of Ste. Anne-de-Bellevue.

From Aug. 23 to Sept. 5, departmental dredge *Nipissing* worked immediately upstream of Dowker's island, removing a shoal projecting on southern side of 9-foot main channel from St. Anns to Lachine.

Some 987 cubic yards, scow measurement, of stone, boulders and clay were removed to a depth of 10 feet; width of cuts, 28 feet; depth, 1 to 1½ feet; distance advanced, 758 feet; hours of actual dredging, 73. Dumping grounds, one mile distant.

On account of hardness of material, the *Nipissing* could only remove about one-fifth of shoal, leaving some 4,000 yards still to be taken out by a stronger dredge.

### ÉCHAFAUD AUX BASQUES.

Echafaud aux Basques is a bay situated on the north shore of river St. Lawrence, six miles above the mouth of Saguenay river.

During the last fiscal year, in order to facilitate the entrance to the bay for schooners engaged in the coasting trade, the sum of $500 was expended for the removal of boulders.

Work started August 1, and was discontinued August 31.

### ESCOUMAINS.

Les Escoumains, in the county of Saguenay, is situated on the north shore of river St. Lawrence, twenty-seven miles below Tadousac. It is a very important place, and a lumber centre.

During the last fiscal year, the sum of $759.04 was expended in repairing the sheathing on the east side of the wharf, and in the construction of an angle crib of 48 feet by 60 by 23 on a mean height of 10 feet at the shore end of the wharf. This crib has been built to protect the freight shed and the waiting room against the action of the sea during easterly gales. The freight shed and the waiting room have also been painted three coats of gray paint.

Work started May 26, and was discontinued July 27.

ESQUIMAUX POINT.

Esquimaux point is situated on the north shore of the Gulf of St. Lawrence, at a distance of 425 miles below Quebec.

The village has a population of 1,000 inhabitants.

During the last fiscal year, the addition of the wharf, begun in 1911, was completed, with the exception of the fenders. It is a construction 40 by 40 feet, standing in 30 feet of water.

The work has been carried out by day labour; was started June 1, and discontinued August 16.

Amount expended, $2,000.35.

FABRE.

Fabre, in Pontiac county, is an agricultural centre with a population of 1,000, located on the east shore of lake Timiskaming, eleven miles south of Ville Marie. The traffic figures during season of 1912, show freight received at wharf, 449 tons; and freight shipped, 524 tons.

Pile-work extension, 72 by 32 feet, added to wharf. Pile-work approach and landing head were raised 3 feet, and materials procured for new warehouse, 56 by 24 feet. Work started August 12 and was intermittent, owing to workmen having to look after crops, and was closed down November 30, as work could be completed more expeditiously in March. Round timber for ice-waling and iron was purchased, and work was continued from March 1 to 31 completing woodwork, except erection of warehouse and handrails. Old ice-breaker piles were sawed off at ground line.

The improved structure, to be completed during season 1913, extends out some 600 lineal feet, drawing 20 feet at the landing face, and stands 5 feet above the R.W.S., elevation 588·5; it consists of landing head, 88 by 80 feet; pile-work approach, 16 by 160 feet, and stone approach, earth filled, 16 feet wide on top, about 360 lineal feet, continued by raised and protected roadway for a distance of several hundred feet to the public road. Warehouses, 56 by 24 feet and 24 by 16 feet; handrails are also provided. The pile-work is protected by round timber ice-waling, 608 lineal feet, for a height of about 5 feet below elevation 584.

Expenditure to March 31, $4,169.76.

FASSETT.

Fassett, a village in Labelle county, is located on the north shore of the Ottawa and on the C. P. Ry.

Population, 1,000.

The pile-work wharf was completed in April, 1912, by Contractors T. and J. Moran. An expenditure was authorized to the amount of $450, to improve 150 lineal feet of roadway leading to wharf. T. and J. Moran carried out the work, including excavation, grading, drainage and surfacing.

Expenditure to March 31, $426.

FATHER POINT.

Father point, in the county of Rimouski, is situated on the south shore of the St. Lawrence, six miles below the town of Rimouski.

Located here are a powerful compressed air fog-horn, an acetylene gas lighthouse and a Marconi wireless telegraph station. The ocean liners call there to take or land pilots.

Important repairs were made to the wharf during the fiscal year 1912-13. The sheathing was renewed and fixed with iron bolts on both sides of the wharf; 9 cap pieces were replaced, the flooring repaired, and the head of the wharf painted on both sides.

A retaining wall was built on the eastern side of the wharf for a length of 300 feet, with an average height of 6 feet, and filled with stone. The space between the retaining wall and the shore was filled level with the top of the wall.

A sidewalk was also built from the wharf to the alarm building, a distance of 732 feet.

The signal flag mast was taken from its old place to the shore end of the wharf.

In November last, a break was made on the west side of the wharf, and temporarily repaired.

Amount expended, $2,879.26

### FORT WILLIAM.

Fort William, in Pontiac county, is located on the north shore of the Ottawa, fourteen miles west of Pembroke, Ontario. Population, about 800, including the surrounding farming district.

Pile-work wharf extending out 289 feet, 8 feet above low water and drawing 13 feet at landing face, 101 feet long, was completed by Contractor C. L. McCool, in June.

Extras to the amount of $425.25 were authorized for improving roadway beyond approach; this work was completed and accepted, November 29.

Expenditure to March 31, $1,824.80.

### GARTHBY.

Garthby, Wolfe county is situated on the east side of lake Aylmer, at the head of Ward's bay. It is a station on the line of Quebec Central Railway, forty-seven miles from Sherbrooke. It contains four general stores, butcher shop, blacksmith shop, sawmills, church, one hotel, and is the distributing centre for the lumber trade, which is quite extensive in the vicinity.

At the last session of Parliament, the sum of $500 was voted to complete the extension to the wharf at this point; on April 4th, 1912, authority was received to expend this sum by day's labour.

Work was commenced on the 20th of July, 1912, and completed on the 8th of August, 1912, and consisted in levelling the timber crib head-block, which had unevenly sunk, the front face being 3 feet lower than the rear; planking the top of this crib with 3-inch planking; the outer corners of the crib are protected with iron plates and the surface of the road has been graded with stone and gravel and an open shelter, 20 feet long by 10 feet wide, with shingle roof, was built on the old head-block, and the low landing stage was repaired.

In the execution of the above works, 4,992 feet board measure of pine, 2,670 feet board measure of spruce, 90 cubic yards of gravel, and 650 pounds of iron were used.

During the fiscal year 1912-13, the total expenditure was $497.49.

### GASPÉ BASIN.

The deep-water pier to be built in the outside deep water basin at Adam's Bluff, terminus of the Quebec, Atlantic and Western Railway, one and one-half miles from Gaspé village had been commenced during the course of the fiscal year 1910-11 by the contractor, Horace Dusseault.

The stone approach and the first crib of 140 by 45 feet have been built.

The whole of the outside pier has been built up to 4 and 8 feet above low water level.

The last progress estimate amounts to $223,849.30.

GATINEAU RIVER.

This work is to check the erosion of east bank of the Gatineau river, below the C. P. Ry. bridge.

Owing to the small amount of money available, it was found expedient to only procure materials, for this work, during last season, and to proceed with bank protection during the season 1913. Some 464 cubic yards of stone have been collected at the site of the work. Total expenditure to March 31, $962.66.

GEORGEVILLE.

Georgeville, Stanstead county is an incorporated school municipality on the east side of lake Memphramagog, eleven miles by road from Magog, the nearest railway station. The permanent population is about 200, increasing to over 300 in summer, owing to its popularity as a summer resort. There are five stores, one temperance hotel, two churches, post office and telephone. It is connected in winter to Magog and Smith's Mills by stage; in summer, two steamers call twice, daily, running between Newport, Vt., and Magog, Que. Along the lake there are numerous cottages, which bring, during summer, an afflux of people for whom Georgeville is the headquarters. The surrounding country is rich agriculturally, and for a distance of five miles in any direction, is tributary to Georgeville. When the steamers are running in summer all freight and passengers for this territory is handled by them.

At the last session of Parliament, $1,200 was voted for repairs; on April 4, 1912, authority was received to expend this amount by day's labour.

Work was commenced on June 21, 1912, and was carried on intermittingly until March 31, 1913, and consisted in repairing the low landing stage, which was damaged by the ice, filling in the gravelled surface of the wharf where it had been eroded by the high water in spring, in excavating that part of the wharf where the concrete wall has to be continued, making the foundation of this concrete wall partly in cribwork and partly with piling. The high level of the water last summer prevented the concrete construction of the superstructure, and it was found necessary to build a temporary crib in order to wait for the low-water level, when the concrete wall will be built.

In the execution of the above works, some 44 elm piles, 6,000 feet b.m. of spruce, 552 feet b.m. of hemlock, 360 b.m. of birch, 60 loads of gravel, and 2,217 pounds of iron were used; 268 bags of cement and 67 cubic yards of gravel were bought in view of the concrete construction which shall be done next summer, if the level of the water permits.

During the fiscal year 1912-13 the total expenditure was $1,142.71.

GLEN ALMOND.

Glen Almond, a village in Labelle county, is located on the east shore of the Rivière du Lièvre.

A freight shed, 12 by 12 feet, and a gangway plank, 12 feet wide by 15 feet long, were built on the floating landing at Glen Almond, and two nigger heads were placed on the float, May 20 to June 28.

Expenditure to March 31, $121.10.

GRANDE BERGERONNE RIVER.

Bergeronnes, Saguenay county, is a post village situated on the north shore of river St. Lawrence, some eighteen miles below Tadousac.

The sum of $310.74 was expended in removing boulders at the mouth of the Grande Bergeronne river, during the last fiscal year.

Work started May 20, and was discontinued July 23.

GRANDS MÉCHINS.

Grands Méchins, also called St. Edouard des Méchins, in the county of Rimouski, is situated on the south shore of the St. Lawrence, thirty-five miles below Matane. There is a population of 1,000, almost all fishermen and lumbermen.

Practically, the only communication is by water. Grand Méchins is a very fine harbour, much frequented by small vessels looking for shelter.

During the fiscal year 1912-13, the work done was the levelling of the approach to the wharf, on a length of 64 feet, for a width of 20 feet. An extension, to provide a slip, was also built; it is 40 feet in length by 16 feet in width, and an average height of 20 feet, fully ballasted. Seven mooring posts and a few ladders were also placed.

Amount expended, $999.90.

### GRAND NORD (EN BAS).

*Dredging.*

Grand Nord is the port, on the St. Lawrence river, for the village (four miles inshore) of St. Barthelemi, some six miles down stream of Berthierville. The R. and O. wharf at Grand Nord is a port of call for the Montreal-Three Rivers line.

St. Barthelemi, a post village in Berthier county, and a station (one and a half miles distant) on the C. P. Ry. (St. Barthelemi) Montreal and Quebec division, sixty-five miles east of Montreal. It has one Roman Catholic church, ten stores, two hotels, two saw-mills and four flour-mills. Haymaking and dairying are well prosecuted here. It has also telegraph and express offices. Population of parish (1909), 2,325; village, 920.

From May 13 to June 24, departmental dredge *No. 3* worked at Grand Nord, deepening, to 6 feet, a creek some two-thirds of a mile downstream of Richelieu and Ontario wharf.

Out of a total quantity of 10,062 cubic yards dredged, some 3,983 were scowed away three-quarters of a mile, and the rest cast over. Average width of cut, 25 feet; depth, 2 to 8 feet; distance advanced, 1,065 lineal feet; hours of actual dredging, 207½.

The object of this dredging was to offer a small protected channel and loading place to some twenty hay barges and two coal barges.

### GRANDE RIVIÈRE.

Grande Rivière, county of Gaspé, is the name of an important fishing centre, some twenty-one miles southwest of Percé.

During the year 1910-11, steel concrete blocks, to complete sheathing of 10,000 superficial feet, were made but could not be secured in place and had to be stored for winter on account of hoisting engine not being delivered in good time. Diver was employed, with helper, three weeks, to remove obstruction and to fill worst places on outside 300 feet, with some four hundred bags of cement.

As mentioned in previous reports, the outside face-timbers, eaten by sea worms, were carried away by the sea, together with most of the stone ballast in the outer section between the lower and upper ballast floors. Spruce sheet-piling were placed alongside, but they are being carried away on account of the suction of the water that gathered behind in the section without stone ballast.

In the fall of 1911, the outside face pockets had been emptied of stone ballast, the top ballast floor removed and the lower pockets well cleaned of stone and dirt. The sides of these pockets were lined with deals and heavy canvas to receive the concrete; three pockets on the outside end were filled with concrete up to average low-water level.

In November, 1911, during the heavy fall gales, the upper structure of the pier was partly destroyed, and after having a thorough survey and examination made by a reliable diver, it was estimated that the repairs needed, besides the concrete works, would amount to some $10,000. Some temporary repairs, at a cost of $684.42, had to be made at once.

During the fiscal year, a diver had to be employed to continue the work done in 1911, for length of 30 feet, and to remove the debris and stone ballast along inside face

of work so as to sheet the inside with 10 and 12-inch spruce down to rock bottom, and replace ballast to keep the top of the pier from being carried away. A length of 100 feet was sheathed, as mentioned above. Some levelling up and minor repairs were made on top of wharf.

Expenditure, $5,464.65.

GREEN SHOALS.

Green shoals, opposite East Templeton, in the river six miles below Ottawa, forms the worst obstruction to navigation in these waters. There are two distinct rock reefs which shoal to within five feet of E.L.W.L., with shifting sand bars above and below. A contract was entered into with the dredging firm of L. Cohen & Son, on the basis of 15,000 cubic yards rock and boulders, and 15,000 yards sand and gravel, scow measure, to be removed from the boat channel. In August, 1911, authority was given to increase yardage of rock to 22,700 cubic yards, further increased in May, 1912, to 24,000 cubic yards, in order to ease off lower part of channel, etc.

To keep within the quantities contracted for, a through channel 200 feet wide, 50 feet of which lies to the north of the axis of the proposed ship canal, to bottom grade elevation 117, has been undertaken across the only real barrier to navigation, opposite the lighthouse. As the sand shoals are not as great an obstruction, the contractors have been directed to do the rock work first.

Rock work commenced in 1910 and continued in 1911, was resumed July 31 and completed November 14, 1912. To date, 31,900 yards bed rock, scow measure, including 8,103 yards in 1912, and considerable waste excavation below subgrade, has been removed, from excavation measuring 19,808 cubic yards, based on weekly dredging reports and surveys. During the past winter, a final survey was made to obtain closely spaced soundings, as a means of checking the inspection during the past season, for plotting and analysing more closely work performed.

GRINDSTONE.

Ten pieces of sheathing have been replaced, and 30 yards of ballast placed on approach. The outside end of the wharf has been raised 1½ feet for a length of 50 feet at outside end, ballasted with 25 yards of stone ballast and floored over.

The substructure of shed has been completed and floored over on a length of 30 by 22 feet, and the shed painted and whitewashed.

Expenditure, $353.24.

GRONDINES.

Grondines is situated on the north shore of the River St. Lawrence, in the county of Portneuf, forty-eight miles above Quebec.

During the present fiscal year 1912-13, a big boulder, eight feet high, which had been deposited by the ice last spring, in front of the wharf, was removed at a cost of $123.18.

GROSSE ILE.

Grosse Ile is situated in the river St. Lawrence, some thirty miles below Quebec, and six miles from the south shore. It is used by the Government of Canada as a quarantine station, for vessels coming up the St. Lawrence.

*Western wharf (Healthy Division).*

As it is now, the connection between the island and steamers is made by means of a tender; this is all right so long as few people are to be landed, but when a great number of passengers, sometimes two or three thousand at a time, are disembarked and embarked, it is a slow process, liable to cause delays and annoyances that would

not exist if sufficient wharfage accommodation were provided. Therefore, it would be desirable that the western wharf, at least, be extended and enlarged so that steamers might draw alongside at any time and land, in a minimum time, thousands of emigrants and luggage, whenever required for disinfection.

With this object in view, a contract was entered into for the construction of an addition to the wharf, 200 feet in length, 50 feet in width, with a depth of water available at low water spring tides of 26 feet. The foundation crib having been set in place late in the fall, the work had to be postponed till spring, when it will be completed. The work is close-faced cribwork, filled with stone and sheathed with hardwood, 6 inches in thickness.

*Hospital wharf.*

This wharf is located at the eastern extremity of the island at close proximity to the hospital; sick people used to be landed at that wharf. During the last fiscal year, the superstructure of the outer wharf, which was sinking down, and depressed in the middle nearly 4 feet, was demolished for a depth of 5 feet on a length of about 100 feet, and rebuilt with new cross ties and longitudinals. This work was done in the month of November and the expenditure was $1,499.04.

GROSSE ROCHE.

Grosse Roche, in the parish of Sacré-Cœur, is situated on the east side of the Saguenay river, in Saguenay county, nine miles from Tadousac.

During the last session of Parliament, the sum of $1,500 was voted towards repairs to this wharf.

During the last fiscal year, the sum of $1,174.10 was expended in replacing face-timber on the front of the wharf over a distance of 60 feet and 45 feet on the north side; 6-inch hardwood sheathing was placed on a distance of 65 feet, on the full height of the wharf; at the shore end, the flooring was renewed on a distance of 100 feet in length by 20 feet in width; the approach upon a distance of 50 feet by a width of 16 feet was also covered with 3-inch deals. Work started on June 9, and was discontinued October 9.

HARRINGTON HARBOUR.

Harrington harbour is situated on the Canadian Labrador, about 660 miles from Quebec. The village has a population of about 60 families; there are two Protestant churches, and an hospital.

During the last session of Parliament, the sum of $2,000 was voted towards the continuation of the wharf.

Work started July 22, and was discontinued October 9.

The work has been carried out by day labour.

During the last fiscal year, the sum of $1,781.61 has been expended.

HIGH FALLS.

Departmental dredge *No. 2* worked at High Falls, on the Rivière du Lièvre (August 15 to August 24), making cuts aggregating 295 lineal feet, 22 feet wide, from channel into west float landing.

This work was undertaken with a view of unloading cement and other construction materials for the James MacLaren Company dam and power development, under construction at High Falls; it being understood that later, the long portage road on the east shore would be discarded in favour of a shorter road on the west shore, using the improved boat channel for landing below the falls.

Some 2,012 cubic yards of clay, scow measure, were removed to grade depth of 7 feet.

HUDSON.

Hudson, a post village in Vaudreuil county, on the river Ottawa, and on the C. P. Ry. (short line), nine miles from Vaudreuil, and thirty-five miles from Montreal. It is a landing for the Ottawa steamers, and contains one Methodist church, one Roman Catholic church, telegraph, express and telephone offices, one hotel and two stores. A favourite summer resort for Montrealers. Population, 500.

The public wharf at Hudson, built in 1901-02, consists of:—

1. A crib head-block, 102 by 19 feet 6 inches, standing 18 feet high in 8 feet of water at low level.

2. A stone approach, 126 feet long and from 42 to 20 feet wide at top, with sides riprapped and sloped 1 in 1; guard railing.

3. A storehouse, 24 by 18½ feet, near upstream intersection of approach and head-block.

The works performed this year consisted in improving the road, raising it 12 to 24 inches, from the main road to the wharf, a distance of 500 feet by a width of 20 feet.

The road was made of rubble stone, hand laid, 12 by 18 inches thick, and an additional layer of sand and gravel 6 to 9 inches thick, forming a crown of 9 inches. Same was properly rolled with a 4-ton roller.

This work was done by day labour. It was commenced on May 28 and completed on August 20.

Expenditure, $999.50.

*Dredging.*

From June 4 to July 5, and from August 13 to August 20, departmental dredge *Nipissing* worked at Hudson immediately opposite the Government wharf.

Some 4,139 cubic yards of clay, boulders and rock were removed in dredging a basin down to 8 feet below zero gauge. Width of cuts, 20 to 25 feet; depth, 1 to 4 feet; distance advanced, 2,005 lineal feet; hours of actual dredging, 220½. Dumping grounds one mile distant.

The object of this dredging was to offer easier access by boat to the Government wharf.

HULL.

Hull, a city in Wright county, with a population of 18,200, is located on the Ottawa river, opposite Ottawa.

The permanent dock built for public traffic at this place some years ago, underwent repairs to the approach roadways, handrailings and doors of warehouses. Two hundred and sixty-eight tons of road metal was used to partly raise and resurface the roadway; 15 standards were renewed, and 2,370 lineal feet of handrailing was straightened and replaced in damaged places, November 6 to 23.

The growing traffic handled over this dock in 1912, amounting to 10,500 tons sand, and 1,100 tons miscellaneous freight, made it difficult to properly handle roadway repairs.

Expenditure on improvements to March 31, $470.92.

IBERVILLE.

*Dredging.*

Iberville, an incorporated town in the county of the same name, on the Richelieu river, and on the C. V. Ry., C. P. Ry., and Q. C. Ry., opposite the town of St. Johns. It contains two churches (Episcopal and Roman Catholic), thirteen stores, two iron foundries, seven hotels, three potteries, one grist-mill and two agricultural implement

factories, monumental works, carriage shop, two bank agencies, telegraph and express offices. Population, 1,512.

From May 20 to May 25, departmental dredge *Richelieu* worked at Iberville, immediately upstream of the Central Vermont bridge, opposite the property of Mr. Eugene Roy.

Some 1,741 cubic yards of clay were cast over in the making, from the river Richelieu shorewards, of a channel about 175 feet long, 40 feet wide, and to a depth of 8 feet below zero gauge. Average width of cuts 22 feet; depth 4½ feet; distance advanced, 354 feet; hours of actual dredging 31.

The object of this dredging was to provide easier access to Mr. Roy's wharf, Mr. Roy agreeing to keep this wharf open to the public free of charge, and for all time.

### ILE AUX CASTORS.

*Dredging.*

Ile aux Castors is one of the many islands at the upstream end of lake St. Peter, between Sorel and Berthierville.

Chenal du Castor separates Ile aux Castors from Ile du Pads.

From November 12 to November 23, departmental dredge *St. Louis* worked at Ile aux Castors opposite the property of Mr. Remi Herard, half a mile upstream of the parish church of Ile du Pads.

Some 1,794 cubic yards of clay were removed and dumped, one-quarter of a mile away. Width of cuts, 30 feet; depth, 2 to 7 feet; distance advanced, 363 feet; hours of actual dredging, 76.

Object of dredging was to remove, down to 6 feet below zero gauge, a shoal obstructing connection between the northern and southern channels du Castor.

On account of lateness of season, work had to be suspended on November 23, leaving some 7,600 yards, place measurement, of material still to be removed.

### ILE PERROT (SUD).

Ile Perrot, a post office in Vaudreuil county, three miles from Ste. Anne-de-Bellevue, a station on the short line, Montreal and Ottawa division of the C. P. Ry., twenty-one miles west of Montreal.

The Ile Perrot South wharf, built in 1886-90, consists of:—

1. A crib head-block 118 feet 8 inches by 30 feet, with a return 34 by 16 feet in rear of east end, outside face standing 15 feet high in 8 feet of water at low level; ice-breaker at upstream end.
2. An approach, 407 by 24 feet formed of 9 cribs and spans varying from 12 to 25 feet wide, guard railing on both sides.
3. A stone approach 203 by 16 feet, with sides riprapped and sloped 1 in 1.
4. A freight shed 16 by 20 feet at eastern intersection of head-block and approach.

During the months of May, June and July, general repairs were affected in order to place the wharf in serviceable condition. These repairs consisted of putting in place a span which had been upheaved by the ice, in renewing 12 by 12-inch and 6 by 8-inch timbers and in repairing the floor.

The sum expended amounted to $219.87.

### ISLE-AUX-NOIX.

St. Paul de l'Isle-aux-Noix, a post village and parish in St. Johns county, on the Richelieu river, two and a half miles from Stotsville on the G. T. Ry., with a port at Isle-aux-Noix. The locality is frequented by sportsmen for the fishing and hunting in the vicinity. The village has one Roman Catholic church, two stores, one hotel, one butter and cheese factory, with telephone service.

Population of parish, 600.

The work performed, during this year, consisted in the raising of the road from the main highway to the wharf, a distance of 1,600 feet, 25 feet wide. This road is flooded at extreme high water and has always been a cause of great difficulty for freighting hay, coal, etc., loaded on the wharf. It has been raised, an average of from 12 to 18 inches, with field stones, and covered with gravel taken from Lake Champlain. It is now a permanent road suitable for all kinds of traffic in any season of the year.

Small repairs have also been made to the flooring in the approach, and about the derrick on the wharf.

Expenditure, $919.08.

ISLE VERTE.

The village of Isle Verte, in the county of Temiscouata, is situated on the south shore of the St. Lawrence, sixteen miles below Rivière-du-Loup, and 130 miles below Quebec.

Spring tides rise 19 feet; neaps, 12 feet.

During the last fiscal year, an amount of $2,499.96 was expended for the reconstruction of 400 feet in length of the superstructure of the wharf by 4 feet in depth and 20 feet in width.

The works were started on July 3, and completed on August 24, 1912.

KAMOURASKA.

The village of Kamouraska, in the county of the same name, is situated on the south shore of the St. Lawrence river, ninety miles below Quebec; it is a well-known place, much frequented as a summer resort. Its population is about 1,500.

Spring tides rise 19·5; neaps, 12 feet.

In order to provide more space where to place lumber and wood coming from the north shore, which is unloaded on the wharf, it was decided to build an extension to the present wharf, which has the following dimensions: 75 feet in length, 45 feet in width on a height of 21 feet, to be built close-faced and placed at the outer end of the actual wharf and in the same straight line.

Tenders were called for on October 31, 1912, but the contract has not been awarded yet.

The sum of $200 was expended, during the month of November of the last fiscal year, in making general repairs to the wharf, which consisted in replacing broken pieces of the flooring and repairing the slip of the outer end of the wharf.

Two mooring posts were also replaced.

KNOWLTON LANDING.

Knowlton Landing, Brome county, is situated on the west side of Lake Memphramagog, about eleven miles by water and fifteen and one-half miles by road from Magog, the nearest railroad station on the through line of the Canadian Pacific railway. It contains one general store, one summer hotel and several houses. Two steamers, making daily round trips between Magog and Newport, Vt., call there from the 15th of May to the 20th of September. During the time the boats are running, the wharf is used by the population for a distance of three miles to ten miles as a means of transport for freight of all kinds, and passengers up and down the lake. The wharf consists of a pile head-block, 21 feet 10 inches wide and 75 feet long, standing in 9 feet of water, and connected to shore by a stone filled approach about 225 feet long.

At the last session of Parliament, an appropriation of $550 was voted for repairs and renewals to pier.

On April 4, 1912, authority was received to expend this sum by day's labour, but owing to the bad condition of the substructure which consists of very old piles that need to be replaced, it was decided to effect only necessary repairs to maintain

the wharf in a safe condition for the season, in view of reconstructing the head next year; those repairs effected amounted to $93.31.

Work was commenced on August 16 and was carried on intermittingly until October 2, 1912. The work done consisted in renewing a portion of the planking and the floor stringers on the north corner, which had been broken by the boat; in building a low landing stage 30 feet by 4 feet, and in repairing the waiting room.

In the execution of the above works, some 2,360 feet b.m. of lumber, 5 window panes and 50 pounds of spikes were used.

### LAC AUX ECORCES.

Lac aux Ecorces, a small settlement in Labelle county, is the terminus of proposed navigation, ten miles from St. François Regis, on Kiamika river, and is on the C. P. Ry.

At its last session, Parliament appropriated $1,300 for the construction of a small wharf. As no headway was made respecting the inauguration of boat service on these waters to St. François Regis, there has been no outlay made for the proposed landing.

An examination has been made, with a view of estimating certain back water effects from obstructions in the Kiamika river, and the matter reported upon.

### LACHINE.

*Dredging.*

Lachine, a city on the St. Lawrence and on the island of Montreal, county of Jacques Cartier. Is the summer residence of many Montrealers, and one of the most prosperous manufacturing centres of the province of Quebec. Its works are very numerous, and thousands of men are employed yearly. Distant from Montreal city hall, nine miles. Mail three times daily. Population, over 10,000.

On May 28 and 29, departmental dredge *St. Louis* worked at Lachine, inshore of the upper entrance of new canal and opposite upper end of embankment of old canal.

Some 230 cubic yards of mud and boulders were removed and dumped 2½ miles south in lake St. Louis. Width of cut, 30 feet; depth, 1 to 2 feet; distance advanced, 149 feet; hours of actual dredging, 20.

Object of dredging was to provide a 3-foot basin and protected harbour for numerous motor boats.

On account of the very hard material found, rock, the *St. Louis* could do only a very small proportion of work intended. Some 5,300 yards, place measurement, of clay, sand and boulders and 1,448 yards of rock still remain to be removed.

### LACOLLE.

Lacolle, a post village in St. Johns county, on the Lacolle and Richelieu rivers, and on the G. T. Ry, and Napierville Junction Ry., forty miles southeast of Montreal. It contains three churches, telephone and telegraph offices, three hotels, seven stores, grist and saw-mills, one branch bank and one foundry. Lacolle is a port of entry. The village is situated in the midst of a rich farming district. Population, 700.

The Lacolle wharf, built before 1890, is situated on the western shore of Ash island, dividing the Richelieu river, opposite Lacolle. It stands near the eastern end of the Richelieu county highway bridge. It is:

1. A pile block, 101 feet 8 inches by 100 feet, standing 30 feet high in 22 feet of water at low level;

2. A freight shed, 40 feet 3 inches by 20 feet 4 inches, at upstream middle portion of block adjacent to bridge.

During the fiscal year 1912-13, 19 piles were spliced at low-water level, 8 stringers were renewed, one cap piece, 8 by 8 inches, was placed all around the edge of the

wharf, the floor was repaired, and galvanized corrugated metal was procured for the roof of the shed.

This work was done by day labour.

Expenditure, $460.71.

*Dredging.*

From September 23 to November 16, departmental dredge *Richelieu* worked at Lacolle, removing, down to 9 feet below zero gauge, a shoal in the middle of main channel immediately downstream of Hospital island, some one and one-third miles north of Lacolle highway bridge. Some 5,766 cubic yards of sand, stone and gravel were removed and dumped from a quarter to half a mile away. Width of cuts, 22 feet; depth, 1 to 4 feet; distance advanced, 3,479 lineal feet; hours of actual dredging, 301.

Object of this dredging was to improve channel connecting the Chambly canal with lake Champlain.

LA SALETTE.

Departmental dredge *No. 2* worked at La Salette, on the Rivière du Lièvre (June 26 to August 6), making a cut 795 lineal feet, 30 feet wide, along westerly shore through landslide, to improve navigation for freight and passenger traffic.

Some 7,691 cubic yards of clay, scow measure, 5,265 yards, place measure, from examination, 1908 and 1913, were removed to a grade depth of 6 feet.

LANORAIE.

Lanoraie, a post village in Berthier county on the river St. Lawrence, five miles from Lanoraie station on the C. P. Ry., forty-six miles from Montreal. It is a port of call of the Berthier and Three Rivers line of steamers of the R. & O. Navigation Co. It contains a Roman Catholic church, several stores and one cheese factory, a temperance hotel, flour and grist-mills. Population, 600.

The repairs to this wharf were performed between the 4th and 15th of June last and consisted in the renewal of the flooring, pending the reconstruction of part of the head-block.

A contract has been awarded to a Mr. Daignault for the construction of an extension, 40 by 40 feet, and the renewal of the head-block from low water level.

Expenditure, $170.12.

*Dredging.*

From June 18 to September 11, Mr. F. C. Burns' dredge *Capital* worked under contract at Lanoraie, providing a 10-foot basin immediately downstream of the Government wharf.

Some 34,678 cubic yards, scow measurement, or 24,747 yards, place measurement, of sand, were removed and dumped about half a mile away. Width of cuts, 20 to 32 feet; depth, 4 to 12 feet; distance advanced, 2,834 lineal feet; hours of actual dredging, 830.

Contract price, 20 cents a yard, place measurement, totalling $4,949.40.

Object of this dredging was to provide crib seat for proposed extension, 40 by 40 feet, to the Government wharf head-block; also to offer a refuge basin to some 18 to 20 barges and smaller boats.

LAPRAIRIE.

Laprairie, a town in Laprairie county, on the south shore of the St. Lawrence, and a station on the G. T. Ry. It contains two churches (Presbyterian and Roman Catholic), eight stores, four hotels, saw and carding-mills, one brickyard, one tomato cannery, two agricultural implement factories, two butter factories, post office, branch

of Banque d'Hochelaga, and telegraph, telephone and express offices. It is a beautiful spot, near the Lachine rapids, much frequented in summer. Communication with Montreal had twice a day by railway and four times a day by steamer. Population, 1,800.

*(A)—Wharf.*

This wharf consists of an approach, 650 feet long, in three different courses, of hand-laid stone riprap and filling, and an irregular head-block of an average of 100 by 100 feet, built of monolithic concrete from low water level, 9 feet on top of old faced crib.

From April 29 to October 12, considerable work was performed on both the approach and head-block. Hand-laid riprap was placed on both slopes of the approach and cemented on the upstream side, the road raised to a proper level, averaging one to two feet higher than the previous level, then covered with 6 to 8 inches of gravel.

The head-block was entirely covered with a cement flooring of 8 inches in thickness.

These works were done by day labour.

Expenditure, $3,975.87.

*(B)—Protection Works.*

At the beginning of October, 1910, protection works were begun at Laprairie, between the town and Little River St. James, a distance of 3,800 feet. It was proposed to raise, with earth, the shore road, 6 feet, so as to form a dyke 24 feet wide at top, with sides sloped 1 in 1, river slope being riprapped, with joints cemented.

During the summer, from August to November, inclusive, 1,000 feet long of riprap, joint cemented, 10 feet high, along the river slope, between St. James river and Laprairie, were completed. The embankment was widened 6 feet for a length of 1,000 feet.

On the portion east of river St. James, earth embankment was built 1,200 feet long, average 5 feet high and 20 feet wide at the top. Riprap, joint cemented, on both northern and southern slope for a length of 1,000 feet.

Ditches were cut along the full length of the proposed protection work, 4,100 feet east of St. James river. The road-bed for this full length was partially raised from 6 inches to 2 feet. Riprap will be required to render this dyke effective and permanent.

This work was performed by day labour.

Expenditure, $15,000.

LAVALTRIE.

Lavaltrie is a post village in Berthier county, on the St. Lawrence river, eight miles from Lavaltrie road station, on the C. P. Ry., forty-four miles northeast of Montreal. Population, 998.

In November, 1907, materials were bought to repair and enlarge the old wharf, purchased the preceding year from the Richelieu and Ontario Navigation Co., for $1,800. This property is composed of:

A crib head-block, 65½ feet by 31 feet, at bottom, and 56 by 31 at top;

A crib approach, 150 by 19 feet, and a right-of-way 50 by 130 feet leading to public road.

The work done during the year 1908 was as follows: The head-block was raised to one foot above low-water level and rebuilt with a crib enlargement of 40 by 40 feet on downstream side; the old approach was protected by the addition of a crib ice-breaker, inclined 1½ in 1, and the three upper tiers were renewed; the roadway leading to the wharf was also improved.

The work performed during the present fiscal year consisted in the construction of a movable waiting room and storehouse, 18 by 24 feet, of a movable guard railing on

one side of the approach and in making urgent repairs to the head-block. These works amounted to $551.50 and were done between June 24 and August 9 last. The balance of the appropriation, amounting to $148.50, was used to improve the roadway to the wharf.

*Dredging.*

From September 14 to November 21, Mr. F. C. Burns' dredge *Capital* worked under contract at Lavaltrie, deepening to 10 feet below zero gauge, a channel leading to, and a basin adjoining, the Government wharf.

Some 17,766 cubic yards, scow, or 13,991 yards, place measurement (reduced to 13,573 yards, place, on account of dredging below grade), of clay and stone were removed and dumped from 3,000 to 6,000 feet away. Width of cuts, 20 to 34 feet; depth, 1 to 15 feet; distance advanced, 5,870 lineal feet; hours of actual dredging, 459.

Contract price, 20 cents a cubic yard, place measurement, totalling $2,714.60.

Object of this dredging was to provide easier access to the Government wharf.

LES EBOULEMENTS.

This village is situated on the north shore of the river St. Lawrence, in the county of Charlevoix, seventy miles below Quebec.

During the present fiscal year, the flooring of the wharf and the floor stringers were renewed. The front of the wharf, which had been broken by steamers in landing, was completely renewed; this necessitated the reconstruction of the complete face of the wharf between the slip and the west corner. A new trestle tower and hoist machinery were installed in connection with the movable slip. All the coping of the wharf was renewed. Eight of the mooring posts were renewed. The hardwood sheathing on the west face of the head-block was renewed.

The works were started on 5th October, 1912, and completed on 31st March, 1913.

The expenditure for the present fiscal year, 1912-13, amounts to $3,193.77.

LES ECUREUILS.

Les Ecureuils is situated on the north shore of the river St. Lawrence, twenty-five miles above Quebec, in the county of Portneuf.

During the present fiscal year, some repairs were done to the flooring of the wharf by the replacing of broken planks.

The expenditure for the present fiscal year, 1912-13, amounts to $49.18.

LES TROIS LACS.

Les Trois Lacs is situated on lake Megantic, in the county of Beauce, about ten miles from Megantic.

During the present fiscal year, the sheathing of the head-block of the wharf was renewed; all the coping timbers were replaced. The macadam flooring, which had been washed away during the flood of last spring, was completely repaired.

The fences on each side of the road leading to the wharf were renewed.

The works were commenced on 11th July, and completed on 19th August, 1912.

The expenditure for the present fiscal year, 1912-13, amounts to $596.81.

LÉVIS.

Lévis is situated on the south shore of the river St. Lawrence opposite Quebec.

During the present fiscal year, the contract entered into between this department and La Cie. Etienne Dussault was continued, and up to this date, the following work was executed:—

| | | | |
|---|---|---|---|
| Removing old wharfs | cubic yards | | 15,276 |
| Filling | " | " | 166,913 |
| Common excavation | " | " | 19,393 |
| Shale excavation | " | " | 31,379 |
| Rock excavation | " | " | 10,158 |
| Cribwork, with stone filling | " | " | 33,095 |
| Stone filling behind cribs | " | " | 8,500 |
| Concrete superstructure | " | " | 76,865 |
| Cast-iron bollards | No. | | 17 |
| Mooring rings | " | | 15 |

The complete front of the wharf is now constructed, and there only remains the return wall alongside the slip at the east end.

### L'ISLET.

The village of L'Islet, in the county of the same name, is situated on the south shore of the St. Lawrence, fifty miles below Quebec. It has a population of 2,500, including village and parish. It is a flourishing agricultural centre.

Its trade is considerable, and consists in farm produce and lumber. It contains two brick yards, several lumber factories and saw-mills.

The village, being located quite on the St. Lawrence river border, is very picturesque and somewhat frequented as a summer resort. Spring tides rise 21 feet; neaps, 13 feet.

The wharf has a length of 1,056 feet and a width of 30 feet, with a head-block 117 by 50 feet wide.

It was substantially built with close-faced cribwork; the superstructure is gone to such an extent and so worn out that likely the ice and the waves would have destroyed it. The usefulness of this wharf is considerable, especially as a harbour of refuge for vessels of moderate draught, plying along the coast.

An Order in Council was passed on the 17th of February, 1913, authorizing the acceptance of the tender of M. J. B. Galibois, of St. Pierre, in the county of Montmagny, of $1.80 per cubic yard of cribwork, fully ballasted, for the removal and rebuilding of the superstructure of the public wharf. At the close of the fiscal year, the work was not yet commenced. During the month of August, 1912, the sum of $147.80 was expended in making temporary repairs to the wharf to keep it open to the public.

### LITTLE MÉTIS.

Little Métis, in the county of Rimouski, is situated on the south shore of the St. Lawrence. The Canada and Gulf Terminal Railway has a station there.

Little Métis is one of the most important summer resorts. There are three big hotels and a great number of cottages. It is also a good farming country.

The work done during the fiscal year 1912-13, was the blasting and removal of boulders which were an obstruction to vessels looking for shelter.

Amount expended, $149.20.

### LONG RAPIDS.

Departmental dredge *No 2* worked at Long rapids (August 7 to 14, September 2 to 28), making cuts in main channel, 603 lineal feet, 16 feet wide, to facilitate navigation in tortuous channel, impassable in very low water; 801 cubic yards of boulders and hard-pan, scow measure, were removed to a grade depth of 10 feet, and spoiled in deep water one-quarter mile distant.

The sum of $350 was authorized to blast boulders in the channel, and the work was carried out in connection with dredging.

LONGUEUIL.

Longueuil, a post town in Chambly county, on the south shore of the St. Lawrence, opposite Montreal, on the shore line division of the Quebec Southern Ry. It contains two churches (Episcopal and Roman Catholic), eight stores, seven hotels, one sawmill, one stove factory, one branch bank, telegraph and express offices. The town has a drainage system, two fine squares, and good facilities for communication with Montreal by train and ferry. Population, 4,550.

The wharf at Longueuil was originally built in 1886, added to in 1889, 1893, 1896 and 1899. The dimensions are: approach, 975 feet long by 80 feet wide at the outer end and 20 feet wide at the shore end, with a head-block of 80 by 40 feet.

This wharf is greatly exposed to the ice, and considerable damages have been caused every year, during the spring shove.

The ice-breaker at the head-block was also considerably damaged by fire.

Repairs were started in October and consisted of:

(*a*) In raising the ice-breaker five feet above the level of the wharf, sheathing it with 10 by 10-inch lumber which is again covered with ¼-inch steel plate, from top to bottom.

(*b*) Sheathing the outside face of the head-block with 8 by 8-inch by 12-foot lumber, and covering the edge with ¼-inch steel plates, 4 feet on the side face and 1 foot on the upper face.

(*c*) Placing eight cast-iron bollards at equal distances, in concrete foundations, in the head-block.

(*d*) Preparing three concrete holes to receive movable oak mooring posts, in the outer part of the approach.

(*e*) Drift bolting, generally, the loose sheet iron along the approach, on the south side, and reconstructing a gap in said approach, made by the ice-shove of 1912.

All these repairs were completed during the past fiscal year, and done by day labour.

Expenditure. $2,716.94.

*Dredging.*

From May 7 to June 10, departmental dredge *Progress* worked in the St. Lawrence, opposite Longueuil, providing a 10-foot channel to Richelieu and Ontario Navigation Co.'s ferry, plying between Montreal and Longueuil.

Some 18,832 cubic yards of sand, gravel, clay and boulders were removed and dumped two miles downstream. Width of cuts, 50 feet; depth, 1½ to 12 feet; distance advanced, 2,050 lineal feet; hours of actual dredging, 182.

LOTBINIÈRE.

Work done during the past fiscal year was the picking up, along the beach, of detached portions of a freight shed of original dimensions 12 by 22 feet, which, in the spring freshets and ice-shove, end of April last, was carried off shore end of the wharf, by water and ice sweeping ten feet high over it, depositing piles of ice 15 feet high, with several big boulders incrusted, all of which had to be removed and cleaned off for the opening of navigation. When water subsided, to put back the four triple fenders extending 6½ feet above flooring of wharf, mooring posts, side stairs, iron guard posts, with double strands of wire railing on 500 feet in length, both sides of wharf.

Shed was rebuilt, with renewal of flat top roof, covered with galvanized iron, and placed on outer end of wharf for navigation and season's traffic.

The flooring, in very bad and dangerous state, after close examination as to the best and cheapest way of placing it in shape, until whole superstructure would have to be renewed, was finally placed in order by doubling over the old flooring, where

needed, with 3-inch spruce deals; the superficial area covered was 14,221 feet, taking 42,663 feet b.m. of deals. Some 200 feet of 4 by 12-inch capping were renewed, several broken or decayed lengths of sheathing, and also side landing stairs were repaired; 220 feet of fencing and wooden 6-inch railings, at inshore approach, smashed by ice, were repaired and renewed where too much damaged.

On road approach from public highway, which had been raised 2 to 8 feet above the hollow depression, through swampy grounds towards beach, and built up of heavy stone on sides, with broken stone, gravel, earth and sand, in middle and top; on 410 feet in length, the ice, carried over half length of the road, had not only bent down iron guard posts of 1½-inch diameter, secured into side heavy top stone with sulphur, but forced out of place and alignment many of those same stones, requiring their removal, also of some 20 posts to rebuild, straighten and replace the whole in shape.

An accumulation of sand and gravel, alongside east end of head-block, was impeding approach to landing stairs and side of wharf at low tides; it was hand dredged, and some 90 loads of gravel carried away, to make it level with plane of beach.

### MAGOG.

Magog, Stanstead county, is situated at the north end of lake Memphramagog, at the mouth of the Magog river and on the main line of the Canadian Pacific Railway, from Montreal to St. John, N.B. It is an incorporated town, having a population of about 4,000, which is steadily increasing. The main industry is the Dominion Textile Company, manufacturing cottons, employing over 2,000 hands in 1911, and this plant has been greatly enlarged since. Other industries are: two saw-mills, one sash and door factory and grist-mill, employing about 100 hands. The town possesses its own water system, hydro-electric light plant and volunteer fire brigade. The assessed valuation of the town is about $1,500,000. It is a customs port of entry, the collections being about $12,000. There are three hotels, several stores, weekly newspaper, churches, bank, etc., etc.

The trade over the wharf is extensive. Two steamers, making daily rounds trips between Magog, Que., and Newport, Vt., carrying passengers and freight. There are about 500 motor boats on the lake, all of which call at Magog more or less frequently. The permanent residents of the townships of Stanstead, Magog, Bolton and Putton, make use of the steamers and launches for passenger traffic, and practically all the freight handled in and out of these townships comes over the wharf, from the Government wharfs at Bryant's, Georgeville, Knowlton Landing and Perkin's Landing, and several private wharfs.

On June 4, 1912, authority was received to expend the sum of $150 in repairing the pile head-block, by day's labour.

Work was commenced on June 20, and completed on June 29, 1912, and consisted in driving 8 piles along the front face and south side of the wharf and bolting same to the wharf, renewing 122 feet of capping and 80 feet of joists, and in repairing the railing on the south side of the wharf.

In the execution of the above works, 8 piles from 24 to 30 feet long, 1,328 feet b.m. of lumber and 61 spikes were used.

During the fiscal year 1912-13, the total expenditure was $149.74.

### MARIA.

Maria, on the north shore of Baie des Chaleurs, Bonaventure county, is situated about ten miles northeast of Carleton.

It is a prosperous village, with a population of nearly 2,500. All the surrounding country is farming land.

During the fiscal year 1912-13, a portion of the flooring of the wharf was renewed with three-inch deals. The approach, which had been damaged by the sea, was also repaired.

Amount expended, $964.02.

MASSON.

Masson, a village in Labelle county, with a population of 1,000, is located on the Ottawa river, eighteen miles below Ottawa, and on the C. P. Ry north shore line.

The stone and earth approach of the high level landing-head was repaired, the high level deck of landing-head was partly replanked, two fenders were replaced, freight shed was painted and doors were repaired, September 3 to 13.

Total expenditure, $99.66.

MATANE.

Matane, in the county of Rimouski, is situated on the south shore of the St. Lawrence, at the mouth of the river Matane, some thirty miles east of Métis.

Matane is the terminus of the Gulf Terminal railway, which connects a portion of this district with the Intercolonial, at Ste. Flavie station.

There is a very important saw-mill at Matane, Price Brother & Co., Limited, of a capacity of about 15,000,000 feet of lumber.

The department owns a landing pier on the west side of the river, near Price Brothers' lumber yard, a breakwater standing on the west side of the mouth of the river and running parallel to it, and a breakwater on the east side, also running parallel to the river.

Spring tide rises 14 feet; neap tide, 8 feet.

Important repairs were done to the landing pier; the sheathing, on the east side, was removed and replaced by piles, for a length of 150 feet, driven ten feet in the ground. The flooring was replaced on east-northeast corner in order to raise that portion of the landing level with the rest of the wharf. A new cap piece and mooring posts were placed. Stone ballast was also placed in the approach of the wharf, levelled and graded for a length of 150 feet by 20 feet.

Amount expended, $2,200.

A breakwater was built on the east side, and a contract was entered into with Napoléon Trudel, of St. Irénée, county of Charlevoix, on the 29th of August, 1910, for its construction, for an amount of $55,021. Work was started at once and consists in 500 feet in length by 26 feet in width, with an 'L' wing of 200 feet at its shore extremity. It is built open-faced cribwork, filled with stone and surrounded with close pile sheathing, sunk at least 5 feet in the ground. The work was practically completed last year; all that was left and done during the fiscal year 1912-13, was the flooring, pile sheathing and some of the ballast.

The work was completed and received on the 29th of August, 1912.

Amount expended, $30,000.

MILLE VACHES.

Mille Vaches is a post village in the county of Saguenay, situated on the north shore of the river St. Lawrence, about forty-two miles below Tadousac.

From the sum of $1,000 voted by Parliament during its last session, the sum of $999.94 was expended in the removal of boulders, at the wharf and at the mouth of river Sault au Mouton.

Works started July 2, and were discontinued August 19.

MISTASSINI.

Mistassini, in the county of Chicoutimi, is a settlement on the river of the same name, being thirty-six miles northward of Roberval, on the west side of lake St. John.

During the last fiscal year, the sum of $800.84 was expended on the continuation of the construction of a wharf.

The work done consists in the construction of two slips of 67 feet each, 20 feet wide; also the flooring of the main portion of the wharf, over a distance of 67 feet by 30 feet in width. Work started July 15 and was discontinued August 29.

The work was carried out by day labour.

MISTOOK (ST. COEUR DE MARIE).

Mistook, in the township of Delisle, is situated on La Grande Decharge of lake St. John, in the county of Chicoutimi; it is also called St. Coeur de Marie.

From the sum of $850 voted at the last session of Parliament, $849.46 was expended in the continuation and completion of a block 25 feet long by 25 feet wide, and on an average height of 13 feet; to close space between two piers and span of wharf, and the freight shed and waiting room were painted, during the last fiscal year.

Work started September 2, and was discontinued November 15.

MONTEBELLO.

The departmental dredge *Nipissing* worked at Montebello (September 10), making two short cuts, one at each corner of Government wharf, aggregating 45 lineal feet, 15 feet wide, to facilitate landing of boats.

Some 241 cubic yards of clay, scow measure, were removed to a grade depth of 10 feet, and spoiled half mile from wharf.

MONTMAGNY.

Montmagny, in the county of the same name, is on the south shore of the St. Lawrence, thirty-seven miles below Quebec. It is a thriving town of some 4,500 inhabitants.

Important shipments of lumber are made by the Price Brothers Co., and other firms, to European markets. Beside a pulp mill, there are also two foundries and iron works.

The town is built on both sides of Rivière du Sud, which empties into the St. Lawrence, with a perpendicular fall of 20 feet. Below the fall, the river expands and forms what is called the basin, affording shelter for vessels of moderate draught. At the northwest extremity of the basin stands one of the Government's wharfs; it is chiefly used for service of small boats of Grosse Isle quarantine and other opposite islands. The other wharf is located in the rear end of the basin; near this last wharf, some work was done to improve the stranding bed on both sides. About 120 cubic yards of earth were removed. Some boulders obstructing the channel were blasted and carried away. Slight repairs were also done to the wharf.

The work was performed between the 15th July and the 16th of August, and the expenditure amounted to $150.

*Protection Wall.*

Owing to the disintegration of the bank of the basin, which is composed of clay for a height of some 18 feet, shoals are formed in the basin which interfere with navigation, also to afford a protection to valuable lands, of which 1,000 cubic yards are destroyed every year, a retaining wall of cribwork was built along the eastern bank, which has the following dimensions: 12 feet in width at the base and 8 feet at the top,

with a mean height of 8 feet, and a length of 767 feet. It is built of light open-faced cribwork, filled with stone. An amount of $4,498.96 was expended in connection with that work.

MOOSE BAY.

Moose Bay, Compton county, is a small settlement about middle way between wharfs of Piopolis and Woburn, near the southwestern end of lake Megantic. The wharf was built in 1908-9, and consisted of:—

1. A crib head-block 40 feet outside face and 30 feet wide, open-faced under water and close-faced above, standing 12 feet 9 inches high in 7 feet of water at lowest level, part of head-block covered by a shelter 30 by 20 feet, with shingle roof, resting on posts.

2. A crib approach 105 feet long and 20 feet wide, also open-faced under water and close-faced above, with guard railing on both sides.

3. A stone approach 65 feet long and 20 feet wide at top with sides riprapped and closed 1 in 1.

On May 30, 1912, authority was received to expend the sum of $330 by day labour.

Work was commenced on August 22 and completed on September 20, 1912, and consisted in the completion of the sheathing on the front and outside faces of the head-block and closing the north half of the open shelter in order to protect the freight from rain storms.

In the execution of the works, some 5,179 feet of lumber and about 3,200 pounds of iron were used.

During the fiscal year 1912-13, the total expenditure was $152.16.

MURRAY BAY.

Murray bay is situated in the county of Charlevoix, on the north shore of the river St. Lawrence, eighty-three miles below Quebec.

During the present fiscal year, minor repairs were effected to the movable slip and to the flooring of the wharf. The roof of the freight shed and waiting room, which was leaking, was repaired; six mooring posts were replaced. Two lifting gates were installed at the shore end of the wharf in order to regulate traffic.

The above-mentioned works were done at different times during the summer season.

The expenditure for the present fiscal year, 1912-13, amounts to $1,066.75.

On October 22, 1912, a contract was entered into with Mr. Napoléon Trudel, for the construction of an addition to the wharf. The contract price is $61,444.09.

Materials to the value of $1,636.29 were received in connection with this work.

NATASHQUAN.

Natashquan is an important village on the north shore of the Gulf of St. Lawrence, some 468 miles below Quebec; it is the best fishing station on the north coast. Outside of the residents, over 150 barges of outsiders fish in the vicinity; the great fishing firm of Robin, Jones & Whitman keep a considerable fishing establishment at the place. Since a few years, farming has advanced considerably and is still improving.

On September 1, 1910, a contract for the construction of a wharf, was awarded to G. R. Philips, of Cornwall, Ont., for the sum of $17,250.

During the last fiscal year, the wharf has been completed; it is a construction of 400 feet in length by 30 feet in width, standing in 14½ feet of water.

The sum of $460.90 was also expended for the construction of a freight shed.

Work on the wharf started May 24, and was discontinued August 20; on the freight shed August 27, and was discontinued September 21.

Public Works, Canada

# Quebec Harbour

NEW CARLISLE.

New Carlisle, the shire town of the county of Bonaventure, is situated on the north shore of the Baie des Chaleurs, sixty-five miles from Campbellton, N.B.

There are three churches, two hotels, several stores, post, telegraph and telephone offices. It is the terminus of the Quebec Oriental railway, and the starting point of the Quebec and Western railway.

During the fiscal year 1912-13, the shore slip was repaired, and also the freight shed on the wharf.

Amount expended, $99.89.

NEW LISKEARD.

The departmental dredge *Queen* worked at New Liskeard basin (June 13 to July 16), making one cut 395 feet long, 30 feet wide, and five cuts 15 feet wide averaging 250 feet long, for improved docking facilities at proposed new wharf.

Some 5,328 cubic yards of sand and clay, scow measure (4,986 yards, place measure), from examination in January, 1913, were removed to grade elevation 575, and spoiled in deep water one mile from wharf.

Dredging was done in outer channel (September 5 to 14); 1,739 yards of clay, scow measure, were removed.

NEW RICHMOND.

New Richmond, in Bonaventure county, is situated on the north shore of Baie des Chaleurs, sixty miles east of Matapedia, between the two rivers Cascapedia.

The work done during the fiscal year, 1912-13, was an urgent repair to the flooring of the wharf, a certain number of deals being renewed.

Amount expended, $50.

NICOLET.

Nicolet, Nicolet county, is a flourishing town on the south shore of the St. Lawrence river at the foot of lake St. Peter. It is on the line of the Quebec, Montreal and Southern railway and on a branch line of the Intercolonial, having good train services in both directions. The population of the town is about 4,000, and of the county, 26,000, for nearly half of whom it is the chief place. A ferry, making a daily return trip to Three Rivers, distance about ten miles by water; a steamer running between Montreal and St. Jean Deschaillons calls twice weekly for freight and passengers, and numerous schooners and barges call for gravel and stone. A channel has been maintained by the Government to the wharf, and it has been found advantageous in the past to protect the outer end from filling in, by a stone jetty.

At the last session of Parliament, the sum of $1,800 was voted for the completion of an extension to the jetty.

On April 4, 1912, authority was received to expend this amount by day labour, in completing the extension of the jetty.

Work was commenced on November 2 and carried on intermittingly until December 17, 1912, and consisted in raising, with stone, the extension of the jetty.

In the execution of the above works, 62 toises of stone were used.

During the fiscal year 1912-13 the total expenditure was $1,255.55.

*Wharf.*

Nicolet wharf consists of a close-faced stone-filled crib, 30 feet wide by 83 feet 3 inches long with an ice breaker, 1½ in 1 on the upper end of the wharf.

At the last session of Parliament, the sum of $4,000 was voted for repairs and renewals to wharf, and on April 4, 1912, authority was received to expend this amount by day labour.

Work was commenced on April 19, and was carried on intermittingly until November 29, 1912, and consisted in bringing back the Government warehouse which was taken away by the high water and ice of the spring of 1912, and in reconstructing the Government wharf. This work consisted in building a stone-filled close-faced crib on a pile foundation, this having the same dimensions as the preceding one. The top of the pile foundation being at the level of extreme low water, and the crib superstructure standing 11 feet 9 inches above extreme low water.

In the execution of the above works, 28,746 feet b.m. of pine, 7,414 feet b.m. of hemlock, 7,830 lineal feet of round pine timber and 5,808 pounds of iron were used.

During the fiscal year 1912-13, the total expenditure was $3,992.80.

### NORWAY BAY.

Norway Bay, a small village and summer resort in Pontiac county, is located on the north shore of Chats lake, Ottawa river, opposite Sand Point, Ont.

Contract was entered into with T. and J. Moran, September, 1911, for the construction of a pile-work and cribwork wharf, for $10,040. Extras were authorized to the amount of $202.82 net, for cedar float and widening main slip. Wharf, which was completed in August, extends out 869 feet, drawing 10 feet at landing head, 48 feet long, and built to a height of 8 feet 6 inches above M.L.W.L., elevation 240; has hand-railing, freight shed and three ice-breakers.

The centre ice-breaker, which was damaged by ice-shove, before the work was taken over from the contractors, was repaired and strengthened by them during March.

Expenditure to March 31, $2,836.18.

### PAPINEAUVILLE.

Papineauville, the shire town of Labelle county, with a population of 1,000, is located on the north shore of the Ottawa river, thirty-seven miles below Ottawa, and is a station on the C. P. Ry.

Some 75 cubic yards of sand were spread on the low level landing approach which, on account of being submerged, had settled about a foot, and on the high level landing approach. Certain minor repairs were also made to the freight shed.

Some loading on low level platform was done in April.

During March, 1913, the small platform between warehouse and low level landing was bolted down, and 182 cubic yards of stone ballast were placed in cribwork pockets of wharf, and flooring, which had to be removed, was replaced.

Total expenditure to March 31, $426.77.

### PEEL HEAD BAY.

Peel Head bay, in Missisquoi county, is at the head of Missisquoi bay, an arm of lake Champlain, three miles from St. Sébastien, in Iberville county, and nine miles from Stanbridge on the Canadian Pacific Railway.

The wharf, built in 1905, consists of:—

1. A head-block of concrete, 96 feet long by 32 feet wide and 15 feet high, sunk in 5 feet at low water level.

2. A stone approach, 18 feet wide at the top, 125 feet long from the head-block, and 25 feet wide for a length of 295 feet to the public road.

3. A large shed, 90 by 45 feet alongside of the road.

The head-block is in good condition.

The portion of the approach, near the head-block, was torn out by the strong south winds, when the ice was moving, in the spring of 1911, making it urgent to rebuild the approach.

Stone hand-laid riprap was placed on both north and south inclines on a length of 200 feet, and a coat of concrete, one foot thick, laid on the surface incline exposed to the south.

Owing to the continuous high water last season, about two feet above usual low water level, the cementing of riprap was not completed.

Expenditure, $761.61.

### PERIBONKA.

Peribonka is situated on the north shore of the river of the same name in Chicoutimi county.

Peribonka river is a tributary of lake St. John.

During the last session of Parliament, the sum of $900 was voted towards the continuation and completion of this wharf.

During the last fiscal year, the wharf was completed.

Work started July 9 and was discontinued October 17.

Amount expended, $619.49.

### PERKIN'S LANDING.

Perkin's Landing, Brome County is situated on the west side of lake Memphramagog, fifteen miles south of Magog, and six miles from Mansonville, the nearest railroad station.

The wharf accommodates the population of the township of Potton, about 800 people, and during the summer season is used by a considerable colony of summer cottagers. Vale Perkin, the nearest village, and from which it gets its name, is about one-half mile from the wharf. The village contains one store, post office, creamery, school-house, and has connections by telephone. Freight for this territory, as far as Mansonville, is brought in by boats, when these are running, and consists of feed and lumber. About 40 cars of wood and a quantity of lumber and logs are shipped out over the dock to Magog.

On July 9, 1912, authority was received to expend the sum of $50 by day labour in making improvements.

Work was performed on July 16 and 17, 1912, and consisted in grading with gravel the approach to the wharf, and the wharf itself where the filling which had been placed during construction had settled, and in building a low landing stage, 12 feet long by 5 feet wide.

In the execution of the above works, one elm pile, 1,700 feet b.m. of lumber, and some 50 yards of gravel were used.

During the fiscal year 1912-13, the total expenditure was $50.

### PETITE BERGERONNE RIVER.

Bergeronnes, county Saguenay, is a post village, situated on the north shore of river St. Lawrence, some eighteen miles below Tadousac.

During the last fiscal year, the sum of $300 was expended for the removal of boulders in Petite Bergeronne river.

Work started July 16 and was discontinued July 31.

### PETIT SAGUENAY.

Petit Saguenay, on the west side of the Saguenay river, in the county of the same name, is situated some nineteen miles from its mouth.

During the last fiscal year, the sum of $359.49 was expended towards the continuation and completion of this wharf.

The continuation consists in an approach 26 feet wide by 50 feet long, with a head-block 18 by 30 feet and 19 feet high.

Work started July 15 and was discontinued August 22.

PHILIPSBURG.

Philipsburg East, originally Missisquoi Bay, an incorporated village of Quebec, Missisquoi county, on the east shore of Missisquoi bay, two miles from St. Armand station, on the Central Vermont Ry., and on the Philipsburg Ry. It has two churches (Episcopal and Methodist), two stores, two schools, two hotels, one grist and prepared food mill, one branch bank (Eastern Townships), besides marble quarries operated in the neighbourhood. Population, 300.

This wharf was repaired during the months of August and September. The flooring was partially renewed, some of the stringers replaced, and the head-block generally strengthened.

As a result of these repairs, the wharf is in fairly good condition, though it is weakened by general decay. The total sum expended was $597.54.

PICHÉ POINT.

Piché Point, in Pontiac county, on the east shore of lake Timiskaming, opposite Haileybury, is the landing for Guigues township, the centre of a prosperous farming district, with a population of 4,000. The traffic figures for season, 1912, show freight received at wharf 534 tons, and freight shipped 248 tons.

At its last session, Parliament appropriated $8,500 towards the raising of Piché Point wharf, in keeping with the newly created storage conditions on lake Timiskaming, and making an extension to the wharf for the increased traffic, etc.

Pile-work extension, 140 by 80 feet, was added to the wharf. The old wharf and pile-work approach were raised 3 feet. The continuous breakwater, on north side, was sheeted to raised level. Before work stopped in November, all materials were procured for warehouse, handrailing, etc., and stone was piled up for raising of stone approach and cribbing around the pile-work, where penetration to rock is limited. Other materials to complete the dock improvement, waling, fenders, etc., were also procured.

Work started June 25 and discontinued November 7.

During the period between March 11 and 22, bracing was completed on pile-work approach; 90 feet of new ice-boom was made and, together with 90 feet of old boom, was stretched to protect the wharf.

Expenditure to March 31, $8,438.72.

PIERREVILLE.

Pierreville, Yamaska county, is a thriving village on the eastern side of the river St. Francis, nine miles from its outlet, and twenty-eight and a half miles north-west of Sorel. It is a station of the Quebec, Montreal and Southern Railway making connections with Montreal, St. Hyacinthe, Three Rivers and Victoriaville. It contains one Roman Catholic church, two Protestant churches, two banks, insurance offices, one telegraph office, two telephone systems, saw, grist and carding mills, about fifteen stores, and has an extensive lumber trade. Buckskin gloves, mitts, shoes, baskets and snow-shoes are made here in large quantities by a tribe of Abenakis Indians. Ship building is also engaged in. The population of the village is about 1,200.

In 1904 and 1905, the Department of Public Works built, immediately below the Quebec, Montreal and Southern Railway bridge, a wharf which consists of:—

1. A pile wharf, 150 feet long, 48 feet 4 inches wide and 13 feet high standing in 5 feet of water, with ice-breaker inclined ½ in 1 at its upstream end, and double slips along the face.

2. The earth approach, about 400 feet long from 30 to 50 feet wide, with rip-rapped slopes properly inclined on both sides.

3. Of a shed, for storage purposes, erected on stone pillars near the approach.

On May 22, 1912, authority was received to expend the sum of $400 for repairs to the wharf and the approach, by day labour.

Work was commenced on June 21, and completed on July 19, 1912, and consisted in draining the approach with 180 feet of 6-inch drain pipes; grading same with sand, clay and gravel; bringing back to its place the freight shed which had been shifted away by the ice, and renewing a part of its roof, and renewing 30 feet of tamarac coping and a part of the flooring of the wharf.

In execution of the above works, some 1,500 feet b.m. of spruce and tamarac, 180 feet of drain pipe, and about 300 cubic yards of sand, clay and gravel were used.

During the fiscal year 1912-13 the total expenditure was $400.02.

### POINTE À ELIE.

Pointe à Elie, is the extreme southeasterly point of Allright island, two miles east of the House Harbor Catholic church.

The steamer *Lady Sybil* calls at Pointe à Elie for mails and freight and for shelter during northeasterly gales.

The construction of a landing pier and breakwater gives the best of shelter from all storms, specially from easterly gales that prevail in the spring.

During the last fiscal year, the crib built ashore, 1911-12, was launched, secured into position, and built up to 4 feet above low water level.

Expenditure, $5,782.58.

### POINTE-AUX-ANGLAIS.

#### *Dredging.*

Pointe aux Anglais in Two Mountains county, is situated on the north shore of lake of Two Mountains, five miles west of Oka, and forty-two miles west of Montreal.

From July 11 to August 12, departmental dredge *Nipissing* worked at Pointe aux Anglais, deepening to 8 feet, a channel leading to, and a basin adjoining, the wharf. Some 8,335 cubic yards of sand, boulders, clay and hard-pan were removed and dumped one mile away. Width of cuts, 20 to 28 feet; depth, 3 to 8½ feet; distance advanced, 1,830 lineal feet; hours of actual dredging, 223.

### POINTE À ROUSSEAU.

Pointe à Rousseau, is the west point of the municipality of Chlorydorme, 190 miles below Métis on the St. Lawrence river. This point partly protects a very good fishing harbour, except at the time of spring tides, and the work under way is to complete the protection of said harbour by building a breakwater over the shoals to the deep-water entrance at the cape.

During the fiscal year 1910-11, a crib of 75 by 25 feet was built ready to be placed in position, and the roadway built up to 30 feet from shore end of crib.

Last spring, an amount of $578.83 was utilized to launch the crib and secure it in position, fill it with ballast, and cover it with poles so as to make it secure for the winter.

POINTE-AUX-TREMBLES (EN HAUT).

*Dredging.*

Pointe-aux-Trembles (En Haut), a post village in Laval county, on the island of Montreal, ten miles from Montreal, and can be reached by electric car trams. It contains one Roman Catholic church, one French Protestant college for boys and girls, under the auspices of the Presbyterian Church of Canada, three stores, three hotels, besides telephone office. There is an excellent rifle range half a mile from the village. Population, 876.

From July 4 to August 22, the W. J. Poupore Company's dredge *Prince Guy* worked under contract at Pointe-aux-Trembles, deepening, to 8 feet and 40 to 45 feet wide, the inner channel leading from Bout de l'Ile to Pointe-aux-Trembles Government wharf.

Some 15,527 cubic yards, scow, or 10,855 yards, place measurement, were removed. Out of the lattter, some 1,542 yards, place, were cast over, and the remainder scowed away one mile. Width of cut, 40 to 45 feet; depth, 2 to 9 feet; distance advanced, 1,015 lineal feet; hours of actual dredging, 352½.

Contract price, 30 cents a yard, place measurement, for material scowed away, and 20 cents a yard for material cast over, totalling $3,102.30.

The object of this dredging is to offer a safer channel to all small boats, barges, etc., plying between Pointe-aux-Trembles and Bout de l'Ile. Otherwise these boats would have to use the 30-foot St. Lawrence channel.

POINTE-AUX-TREMBLES (EN BAS).

Pointe-aux-Trembles is situated on the north shore of river St. Lawrence, in the county of Portneuf, twenty miles above Quebec.

During the present fiscal year, 300 planks of the flooring of the wharf were repaired; some repairs were effected to the railing, and the roof of the building on the wharf was painted.

The work was started on July 11, and completed on August 23, 1912.

The expenditure for the present fiscal year, 1912-13, amounts to $444.19.

POINTE CLAIRE.

Pointe Claire, an incorporated village in Jacques-Cartier county, is situated on lake St. Louis, and on the G. T. Ry. and C. P. Ry., fourteen miles from Montreal. It contains one Roman Catholic church, six stores, three hotels, telegraph and express offices. Population, 850.

The public wharf at Pointe Claire, built in 1899, consists of:—

1. A crib head-block 109½ feet long, besides a 12-foot ice-breaker 25 feet high, and standing 14 feet high in 6 feet of water at low level.

2. A stone approach 1,000 feet long, from 29 to over 100 feet wide, leading to the King's highway.

3. Three storehouses: one 27 feet 3 inches by 19 feet 2 inches at downstream intersection of head-block with approach; and the two others, one 60 by 30 feet and the other 40 by 15½ feet on stone approach.

Owing to heavy sand which was unloaded on this wharf, stringers had to be renewed, and part of the flooring rebuilt.

The storehouse was painted two coats, and other minor repairs were made to the wharf.

This work was performed by day labour.

Expenditure, $618.31.

POINTE FORTUNE.

Pointe Fortune, a post village in Vaudreuil county, on the river Ottawa, and on the Montreal and Ottawa short line of the C. P. Ry., seven miles from Grenville, forty-five miles northwest of Montreal. It contains three churches, one Roman Catholic, Presbyterian, and Methodist, two stores and one hotel, besides express and telegraph offices. Population, 400.

The work performed during the present fiscal year consisted in the repairs of the wharf commenced on July 17, and completed on August 7. The total expenditure amounted to $243.29, for which a portion of the slip was renewed and general repairs to the flooring completed.

This was performed by day labour.

POLTIMORE.

Poltimore is located on Lièvre river, eighteen miles above Buckingham, opposite La Salette.

A landing float was constructed, March 20 to 31, at Poltimore landing, at a cost of $274.59. This float was built of two rows of cedar, with 2-inch flooring, and is 25 feet wide by 30 long.

PORT DANIEL.

Port Daniel, in Bonaventure county, is situated on the north shore of Baie des Chaleurs, forty-five miles west of Percé.

It is an important village with a population of 1,500, mostly engaged in the fishing industry. It is also a good farming settlement.

There are saw-mills, telegraph and post offices, several stores and a station of the Quebec Oriental railway.

The work done during the fiscal year 1912-13, consisted of pile-sheathing to prevent undermining; both sides of the wharf were so sheathed, the south side for a length of 108 feet and 126 feet on the north side. The shed was also repaired.

Amount expended, $821.04.

POUPORE.

*Dredging.*

Departmental dredge *No. 2* worked at Poupore (September 30 to November 16), making two cuts aggregating 848 lineal feet, 20 feet wide, through landslide which occurred September 28, to make possible navigation, which was completely obstructed.

Some 9,848 cubic yards of clay, scow measure, were removed to a grade depth of 7 feet and spoiled in deep water one mile distant.

The river bottom, filled by extensive landslide in 1903, is so uneven and changes so rapidly by smaller slips of the banks and by erosion, that it has been found to be impracticable to follow the dredging with accurate surveys.

QUEBEC.

*Custom Basin.*

Custom basin is situated in front of the custom house.

Dredging was performed in the basin to remove filling in front of Pointe à Carcy wharf.

The entrance to said basin was also widened by removing a portion of the wharf.

Dredge *International* worked from July 1 to 17, 1912.

Some 9,104 cubic yards of sand, mud and old cribwork were removed to a depth of 23 feet.

*Dredging.*

Atkinson's wharf is situated in the harbour of Quebec, about 500 feet west of the Custom basin.

Dredging to a depth of 12 and 18 feet was performed at this wharf in order to make a berth for the car ferry steamer.

Dredge *Ottawa* worked from October 28 to November 4, 1912; dredge *International* worked on July 18, 19 and 20, 1912.

A total of 6,696 yards of rock and mud were removed.

Dredging was done in Quebec harbour in connection with the approach channel and berth to pier No. 1.

This work was performed by the dredge *Fundy*, of the Dominion Dredging Co., from May 2 to December 11, 1912, and by the departmental dredges *International* (from July 2 to November 23, 1912) and *Ottawa* (from November 5 to 20, 1912).

There were 686,510 cubic yards of sand, hard-pan and boulders excavated to a depth of 35 feet.

RIMOUSKI.

The town of Rimouski, in the county of the same name, is situated on the south shore of the St. Lawrence, 180 miles east of Quebec.

It is the chef-lieu of the two counties, Rimouski and Matane, also of the episcopal district. The population is over 4,000.

Rimouski is a very important station of the Intercolonial railway. The steamers transfer the royal mail to the railway, and vice versa. The branch line of railway established to and on the wharf renders great services to navigation, facilitating the import of goods and especially the exportation of timber and lumber.

The exportation was, last year, 6,364 tons of pulp, estimated at $169,794; 18,900,000 feet of lumber, estimated at $264,600; 2,000 tons of sea-grass, estimated at $36,755.

Several big pulp and saw-mills, established in the surroundings, will make use of the wharf, as soon as the approach will be improved.

To give an idea of the importance of lumber trade in the district, I will mention Price Bros. & Co., Ltd., Rimouski, Metis and Matane; Roy & Frère; Matapedia Lumber Co.; Price-Porritt Pulp and Paper Co.; J. A. Theberge; Gagné & Frére; Turgeon and Vaillancourt; La Cie Industrielle de Rimouski; Banville & Cie, etc.

Last fall, tenders were called for the construction of piers, to be sunk in 25 feet of water, and the dredging of a tidal basin, to be 25 feet in depth, 400 feet in a westerly direction by 1,100 feet northerly.

The work done, during the fiscal year 1912-13, was the completion of the filling of the slip, on the west side of the wharf, for a length of 153 feet by 14 feet width. Two rows of timber, stringers, flooring and cap pieces were placed. General repairs were also done to the wharf.

Spring tide rises 15 feet; neap tide, 9 feet.

Amount expended, $3,994.80.

*Dredging.*

The dredging done during the fiscal year 1912-13, was 704 hours of work; 464 scows filled, representing 84,061 cubic yards of material, scow measurement. The material removed was clay, and the work was performed by dredge *Progress*.

RIVER BAS DE SOIE (BERGERONNES).

Bergeronnes, Saguenay county, is a post village, situated on the north shore of the river St. Lawrence, some eighteen miles from Tadousac.

During the last fiscal year, the sum of $500 has been expended on river Bas de Soie for the removal of boulders to facilitate the driving of logs. Work started April 18, and was discontinued June 20.

RIVER BATISCAN.

River Batiscan is situated in the county of Champlain and is a tributary to the river St. Lawrence.

Dredging was performed to provide for a 7-foot channel at low water.

This work was performed by the dredge *Duke of York* of the W. J. Poupore Co., from 9th May to 3rd August, 1912.

Some 56,804 cubic yards of clay and sand were removed, at a cost of 15 cents a yard.

RIVER DES PRAIRIES.

*Dredging.*

River des Prairies, or Back river, separates, north, the island of Montreal from Ile Jesus and Ile Bizard. It starts at the foot of lake of Two Mountains and, twenty-seven miles downstream, empties into the river St. Lawrence at Bout de l'Ile, discharge varying from 20,000, at low water, to 72,000 cubic feet per second at high level. On account of swift rapids and strewn boulders, the river, for long portions, is not navigable.

From June 25 to November 16, departmental dredge *No. 6* worked in river des Prairies, opposite the village of Rivière des Prairies, some four miles upstream of Bout de l'Ile, continuing through the rapids the 6-foot channel, 100 feet wide, begun in the autumn of 1911.

Some 14,986 cubic yards, scow measurement, of boulders, stone, hard-pan and gravel were removed and cast-over on both sides. Width of cuts, 50 feet; depth, 1½ to 4 feet; distance advanced, 3,545 lineal feet; hours of actual dredging, 752.

The object of this dredging is to provide 5-foot navigation from Bout de l'Ile to the village of St. Vincent de Paul, some eleven miles upstream.

RIVIÈRE-DU-LOUP (EN HAUT).

*Dredging.*

Rivière-du-Loup, in Maskinonge county, flows into lake St. Peter (river St. Lawrence), through the town of Louiseville, on the C. P. Ry., some seventy-five miles northeast of Montreal.

Louiseville, a post town in Maskinonge county, and a station on the Montreal and Quebec division of the C. P. Ry., close to lake St. Peter, on the river St. Lawrence, and twenty-one miles west of Three Rivers. It is six miles south of St. Leon Springs. The region overlies great stores of natural gas, and the town is lighted by it. It has two churches (Roman Catholic and Protestant), one convent, several stores, four hotels, one bank (Hochelaga), one model school, two grist and two saw-mills, two foundries, one door and sash factory and four tanneries, besides telegraph and express offices. Population, about 1,685.

From August 1 to August 16, departmental dredge *No. 3* worked at Rivière-du-Loup village, a suburb and port of Louiseville, deepening, to 6 feet, a channel leading to the Government wharf.

Some 2,160 cubic yards, scow measurement, of sand and clay were removed and dumped five and a half to six miles downstream into lake St. Peter. Width of cuts, 15 to 25 feet; depth, 2 to 4 feet; distance advanced, 642 lineal feet; hours of actual dredging, 53.

RIVER GODEFROYE.

River Godefroye is a small river in Nicolet county, rising in the seigniory of Roquetaillade and flowing into the St. Lawrence through the parish of St. Gregoire, opposite Three Rivers. On June 11, 1906, a contract was entered into for the con-

struction of a landing-pier at the entrance of Godefroye river, the contract price being $4,200. It called for the construction of:—

(a) A pile head-block 33 feet wide, formed of two portions, one measuring 60 feet 6 inches on the outside face, another measuring 36 feet 6 inches also on the outside face, the two forming an angle of 125 degrees.

(b) A stone approach 611 feet long, 16 feet wide clear at top, with slopes on both sides, side approach forming an angle of 25 degrees with the longer face of head-block; the whole structure standing 11 feet 3 inches above low-water level. Work was commenced in July, 1906, and satisfactorily completed August 18 following.

(c) In August, 1908, a sum of $650.03 was expended in building a storehouse, 22 feet by 16 feet, on head-block, and in raising stone approach from 1 to 2 feet for a length of 200 feet. During July and August, 1910, the sum of $1,162.30 was expended in the building of a 6-foot (above zero gauge), pile and crib extension, 30 by 10 feet for use at low-water level, stone filling behind up to stone approach from 20 to 42 feet distant.

In the spring flood of 1912, this low level wharf was destroyed by the ice. On June 10, 1912, authority was received to expend an amount of $1,100 by day labour in rebuilding the wharf.

Work was commenced on June 17, and carried on intermittingly until August 31, 1912. The work done consisted in repairing the storehouse and reconstructing the low level wharf in a solid, stone-filled, close-faced crib, and regrading the approach with stone.

In the execution of the above works, 10,341 feet of pine and spruce, 13 toises of stone and 50 cubic yards of gravel were used.

During the fiscal year 1912-13 the total expenditure was $1,012.40.

### RIVER LAGUERRE.

Laguerre river is a sluggish stream emptying into lake St. Francis, on the St. Lawrence, about three miles north of Laguerre, Huntingdon county. It is navigable for vessels drawing 4 feet, but deeper, say 9 feet, after level of its mouth is passed.

A bridge there prevents anything higher than 6 feet passing it.

It had been decided to deepen and improve river Laguerre in order to drain and render about 20,000 square acres of land fit for cultivation. During the session of 1911, a sum of $15,000 was voted to commence work.

On August 23, 1911, the construction, in re-enforced concrete, of bridge and regulating gates at the mouth of river Laguerre was begun.

The gates, six in number, cover each 6 feet wide and 15 feet high. Length of bridge proper, 42½ feet; stone approaches, 48 feet and 29 feet long respectively, 20 feet wide at top, with sides riprapped 1 in 1.

The concrete bridge and regulating gates, on river Laguerre, in connection with this drainage canal and improvement were completed this year.

The object of these regulating gates is to allow the flow of river Laguerre into lake St. Francis from overflowing into river Laguerre when the latter is at a lower level.

This work was done by day labour.

Expenditure, $1,973.83.

### RIVER NICOLET.

*Dredging.*

River Nicolet rises in the lake of same name and falls into lake St. Peter, three miles below the town of Nicolet; length 60 miles. It is a rapid stream, but navigable for some distance above the town.

Nicolet, a flourishing town in Nicolet county, at the foot of lake St. Peter, on the Nicolet branch of the I. C. railway and six miles from St. Gregoire, on the G. T. railway, eighty-one miles north-northeast of Montreal. It contains two churches, three convents, one bank, thirty stores, three hotels, telegraph and express offices, sash and door and carriage factories, one hospital and one harbour of refuge, together with two foundries and one printing office. It has a fine college, with a library containing over 20,500 volumes. Population, 2,552.

From May 11 to November 16, dredge *Lanark;* from May 15 to July 16 and from September 18 to November 15, dredge *Nehoc;* both the property of Messrs. L. Cohen & Son, worked in river Nicolet continuing contract begun the year before.

Dredge *Lanark* removed 74,477 cubic yards, scow measurement, of clay and sand. Width of cuts, 10 to 30 feet; depth, 3½ to 10 feet; distance advanced, 12,783 lineal feet; hours of actual dredging, 1,539.

Dredge *Nehoc* removed 46,298 yards, scow measurement, of same material. Width of cuts, 15 to 30 feet; depth, 3½ to 15 feet; distance advanced, 5,305; hours of actual dredging, 827. Dumping grounds, three miles downstream in river St. Lawrence.

Total quantity dredged, 120,775 cubic yards, scow measurement (or 89,652 yards, place), at a contract price of 30½ cents a cubic yard, place, totalling $27,343.86.

The object of this dredging is to provide a 10-foot channel, 100 feet wide, all through river Nicolet from the St. Lawrence to the town of Nicolet, where a public wharf is proposed.

### RIVER ST. CHARLES.

On 8th August, 1910, a contract was entered into between Mr. Horace Dussault and this department, for the dredging of a 15-foot channel, 300 feet wide, into the river St. Charles, from the St. Lawrence to the Quebec Railway, Light and Power Co. bridge.

This channel is required in order to permit vessels, intending to enter into the river St. Charles, to reach as far as the proposed dam and locks.

Dredge *Bruxelles* worked from 9th May to 6th July, 1912, removing 200,007 cubic yards.

Dredge *Stephen D.* worked from 18th May to 8th July, 1912, removing 73,099 cubic yards.

Total cubic yards removed, 273,106, of sand and boulders, at 9 cents, $24,579.54.

### RIVER ST. FRANCIS.

#### *Dredging.*

The river St. Francis rises in the counties of Compton, Beauce and Megantic. It collects the water of lakes St. Francis, Aylmer, Weedon and several other small lakes; it flows through the Eastern Townships for a distance of 173 miles and empties into the St. Lawrence at the head of lake St. Peter. The drainage area of the St. Francis river is approximately 3,370 square miles.

The object of the dredging performed on this river is to make the river navigable from the St. Lawrence to St. François du Lac and Pierreville, where considerable traffic is handled.

Dredging was commenced May 20, 1912, and continued until November 20, 1912, and consisted in the removal of 145,044 cubic yards, scow measurement, of clay and sand at the following places: Opposite Abenakis Springs, 1 cut 40 feet wide and 1,500 feet long, dredged to 8 feet below low-water level; average depth of cutting, 7 feet. Opposite Notre Dame de Pierreville, 1 cut 40 feet wide, 7,200 feet long, finished depth, 9 feet below low-water level, average depth of cutting, 6 feet; another cut lower down, 40 feet wide, 900 feet long, finished depth, 9 feet below low-water level, average depth of cutting, 5 feet; at the outer end of Grande Baie de St. François, 3 cuts, 6,700 feet

long, having a total width of 120 feet, finished depth, 9 feet below low-water level, average depth of cutting, 6 feet.

Expenditure during the fiscal year 1912-13 was $23,724.79.

### RIVER ST. LOUIS.

*Dredging.*

River St. Louis rises between the villages of St. Barbe and St. Stanislas, some eight miles south of Valleyfield, and runs east through the parishes of Cartier, St. Louis de Gonzague, St. Etienne and the town of Beauharnois, near which it empties into lake St. Louis. Total length, about 20 miles.

During spring freshets and after heavy rains, the river overflows its banks, especially for the seven miles upstream of St. Louis de Gonzague, and floods extensive fields of promising crops.

In order to minimize the disastrous effects of these floods, the department began, in 1904, and continued every year since, the deepening of the river bed from St. Louis de Gonzague, at Symon's bridge, going upstream, channel made being 40 feet wide with material cast over on both sides and levelled off. A great portion of this channel being blasted through solid rock.

During 1912, from May 20 to December 7, departmental dredge *No 1* took out 17,769 cubic yards, scow measurement of clay, stone and solid rock (over 1,171 yards of the latter). Width of cuts, 40 feet; depth, 1 to 6 feet; distance advanced, 3,038 lineal feet; hours of actual dredging, 1,445.

All this material was cast over on both sides and levelled off.

Dredging is now completed from Symons point up to half a mile downstream of Pont Rouge, a total distance of about two and a half miles.

### RIVIÈRE AUX OUTARDES.

Rivière aux Outardes, Chicoutimi county, is a river flowing into the Saguenay some eight miles below the town of Chicoutimi.

During the last fiscal year, in order to facilitate the entrance to the river, the sum of $388.74 was expended for the removal of boulders at the mouth of this river.

Work started August 19 and was discontinued September 11.

### RIVIÈRE AUX VASES.

Rivière aux Vases, Chicoutimi county, on the north shore of Saguenay river, is situated in the parish of Ste. Anne du Saguenay, about six miles from the village.

The addition, 30 feet wide by 40 feet long and 20 feet high, begun during the fiscal year 1911-12, has been completed during the last fiscal year.

Work started May 2 and was discontinued August 19.

The sum of $1,194.77 has been expended.

### RIVIÈRE BLANCHE.

Rivière Blanche, or St. Ulric de Matane, in the county of Rimouski, is situated on the south shore of the St. Lawrence, twenty-one miles east of Métis and nine miles west of Matane.

Rivière Blanche is an important farming district. There is a big saw-mill and door, sash and prepared lumber factory.

During the fiscal year 1912-13, some defective places in the sheathing and flooring of the wharf were renewed and other minor repairs were made.

Amount expended, $348.44.

RIVIÈRE DES VASES.

Rivière des Vases, in the county of Temiscouata, flows through the parish of Isle Verte and empties into the St. Lawrence about six miles west of the Ile Verte church. It forms part of the parish of Isle Verte; population, 2,500. The chief trade of the place being the sea-moss industry.

To promote this trade and to accommodate the people living on the island opposite, a landing pier was built on the south-east bank of the mouth of the Rivière des Vases.

As the sea-moss crop is growing larger every year, some thirty-five boats of a mean length of 25 feet being engaged in that industry, the landing pier was no longer large enough to accommodate the little fleet, and the sum of $1,000 was expended to construct an addition 60 feet in length, 20 feet in width, 8 feet high at outer face, placed on the slope bank of the river, with earth filling on the inside.

The work was done during the months of June and July.

RIVIÈRE-DU-LOUP.

Rivière-du-Loup, or the town of Fraserville is the chef-lieu of the county of Temiscouata. It is situated on the south shore of the St. Lawrence, 114 miles below Quebec. It is a thriving town of over 7,000 inhabitants, and contains several manufactories, including two pulp-mills.

The Rivière-du-Loup point, where the wharf is located, is distant 2½ miles from the village. It is one of the best known and most frequented summer resorts of the St. Lawrence.

There is a branch of the Intercolonial Railway extending from the station to the outer end of the wharf, a distance of six miles.

Spring tides rise 19 feet; neaps, 12 feet.

During the fiscal year ended March 31, 1913, important repairs were made to the wharf, and the sum of $4,100 was expended thereon, as follows:

The face timbers on the east side of the shore end of the wharf were sheathed on a length of 660 feet, by a mean height of 18 feet with spruce, 4 inches thick. The flooring was renewed on a surface of 7,608 square feet, with spruce deals 3 inches in thickness. The shingle roofing of the two freight sheds, standing upon the outer end of the wharf, was renewed, and the buildings painted, inside and outside, with two coats of paint. The rail guards and cap timbers were also painted on the whole of the wharf.

With a view of renewing part of the hardwood sheathing of the outer face of the wharf, 17,627 feet b.m. of white oak were bought at $65 a thousand feet, but the delivery having been made too late in the season, the timber could not be used, and is now available for work next summer.

The works were carried on between the 15th June and 15th October.

RIVIÈRE OUELLE.

The pier is situated at Pointe aux Orignaux, five miles distant from the village of Rivière Ouelle, in the county of Kamouraska, on the south shore of the St. Lawrence, opposite Murray Bay. A branch of the Intercolonial Railway, built from Rivière Ouelle station to the outer end of the wharf, connects with a steamer which crosses the St. Lawrence several times a day during the summer season, calling at Murray Bay and other places on the north shore. In winter, the service is also daily.

Spring tides rise 20 feet; neaps, 12 feet.

During the fiscal year ended March 31, 1913, the following works were performed on the wharf: The flooring was renewed on a surface of 1,600 square feet; the railing on both sides of the wharf was repaired on its total length; 25 pieces of 6 by 6 inches

by 12 feet and 50 pieces 3 by 4 inches by 12 feet were used, also 25 gallons of paint. Fenders were placed at the corners, 12 pieces, 8 by 8 by 25 feet, were used. The movable slip was also repaired. To strengthen the face timbers, piles were placed along the western face of the wharf on a length of 60 feet; the piles were pitch pine, 40 feet in length 10 by 12, sunken into the bottom and well secured to the face timber.

The expenditure was $1,477.47.

RIVIÈRE VERTE.

*East Side.*

Rivière Verte, which flows through the parish of Isle Verte, in the county of Temiscouata, empties into the St. Lawrence about three-quarters of a mile west of Ile Verte church.

During the fiscal year between July 15 and August 20, the sum of $497.70 was expended as follows: A dry stone protection wall, 280 feet long, 5 feet wide and 4 feet high, was built along the inner face of the cribwork dike, constructed some years ago, to counteract the disintegretion of its foundation during spring freshets. The dike has a total length of 550 feet and a length of 270 feet and is protected by piles sunk as far as the rock.

*West Side.*

The landing pier built along the western side of the Rivière Verte, near its mouth, for the accommodation of people engaged in the sea-moss industry, which is still growing more considerable, having proved not long enough, was extended on a length of 125 feet; the width of the extension is 12 feet, and its height at outer face is 8 feet, with an earth backing. The pier consists of a light cribwork filled with stone, and its total length is now 590 feet.

The work was performed between July 1 and August 26. The amount expended was $1,498.86.

ROBERVAL.

The town of Roberval, in the county of Chicoutimi, is built on the east side of the river Ouichouaniche, near its mouth, on the south shore of lake St. John, 200 miles east of Quebec city. It is the northern terminus of the Roberval branch of the Quebec and Lake St. John railway, which taps the main line at Chambord station.

During the last fiscal year, the sum of $1,492.26 was expended to purchase the necessary materials to repair the wharf, which is in a dilapidated condition.

*Dredging.*

The dredge *Lac St. Jean* worked from July 3 to November 6, and removed 15,940 cubic yards of material.

RUISSEAU À LA LOUTRE.

Ruisseau à la Loutre, in the county of Rimouski, is situated on the south shore of the St. Lawrence, about twenty-four miles east of Matane.

It is a new settlement, but very progressive. There is an important saw-mill. The residents have practically no other communication than by water.

On October 15, 1912, an Order in Council was passed, granting the following authorities, in connection with the harbour improvements at Ruisseau à la Loutre:—

1. To purchase from the Government of Quebec the beach lot upon which stands a wharf, for the sum of $50, and to pay $25 for the letters patent of the said lot;

2. To purchase, from François St. Gelais, a wharf and approach at Ruisseau à la Loutre for the sum of $1,200.

Amount expended, $1,275.

ST. ALEXIS.

St. Alexis, Ha Ha bay, in Chicoutimi county, is situated on the south shore of the bay in the river Saguenay, about sixty-three miles from its mouth.

During the last fiscal year, the sum of $376.59 was expended to renew the shore portion of the flooring of the wharf.

Work started June 19, and was discontinued August 12.

ST. ALPHONSE DE BAGOTVILLE.

St. Alphonse de Bagotville is situated at the head of Ha Ha bay, on the southern side of the river Saguenay, some sixty-six miles from its mouth.

During the last fiscal year, the sum of $832.99 was expended to complete the addition to wharf, begun during the previous year; an additional sum of $38.70 was expended in repairing the cap piece and head of fenders in front of the wharf.

Work started May 4 and was discontinued October 11.

ST. ANDRÉ DE KAMOURASKA.

The village of St. André, in the county of Kamouraska, is situated on the south shore of the St. Lawrence, about fifteen miles west of Rivière-du-Loup, and 100 miles below Quebec.

The place is somewhat frequented as a summer resort; it contains a foundry and an important machine factory.

Spring tides rise 19 feet; neaps, 12 feet.

The wharf consists of an eastern embankment 850 feet long with a mean height of 6 feet, and nine piers connected by platforms of 30 feet spans.

The sum of $423.10 was expended during the last fiscal year in making the following repairs: The flooring was renewed on a surface of 578 by 25 feet, two ladders were placed at the head of the wharf, the slip was repaired and some boulders were blasted and removed. The approach to the wharf was levelled and two ditches were dug on both sides of the road, for a length of 500 feet. The cap pieces and mooring posts were painted.

ST. ANDREWS.

St. Andrews, Argenteuil county, is located on the North river, three and one-quarter miles from the Ottawa river.

At its last session, Parliament appropriated $500 towards increasing warehousing accommodation at St. Andrews, where a small public wharf was built a few years ago.

A second freight shed, 16 by 24 feet, and a cattle yard, 30 by 35 feet, were built, January 23 to February 19.

Expenditure to March 31, $413.35.

ST. ANICET.

St. Anicet, a post village and parish in Huntingdon county, near Port Lewis, on Lake St. Francis, an expansion of the St. Lawrence river. The nearest station, ten miles distant, is Whites, on Massena Springs division of the G. T. Ry., thirty-one miles from Massena Springs and seven and a half miles from Huntingdon. It has one Roman Catholic church, six stores, two hotels, grist and saw-mills, telegraph and express offices. Population of parish, about 5,000.

The St. Anicet wharf, built in 1862, and added to several times since, consists of:

1. A close-faced and stone-filled crib head-block 96 feet long, outside face, 21 feet 5 inches wide at upstream end and 41 feet 9 inches at other end, with shoreward crib extension of 58 feet 9 inches by 34 feet; outer face standing 13 feet 3 inches high in 7 feet 3 inches of water at low level;

2. A stone pier and span approach 173 feet 9 inches by 34 feet;

3. A freight shed 45 feet 3 inches by 12 feet 2 inches on western shore end of crib extension of head-block;

4. A cattle yard 15 by 15 feet at shore end of approach.

General repairs and additions were made from September 14 to November 21 consisting of the renewal of 2,000 feet b.m. of 3-inch flooring, 75 feet of hand-made riprap on the west side of the stone embankment; an extension of 20 by 20 feet by 10 feet high in stone, with a concrete flooring, for a cattle yard on the west side, with proper fences, and other minor repairs to the wharf. The structure is now in good condition.

Expenditure, $1,197.72.

STE. ANNE-DE-BELLEVUE.

*Dredging.*

Ste. Anne-de-Bellevue, a thriving post village and parish in Jacques Cartier county, at the confluence of the rivers Ottawa and St. Lawrence, and on the G. T. Ry. and C. P. Ry., twenty-one miles west of Montreal. It contains two churches (Episcopal and Roman Catholic), one convent, one college for the education of Roman Catholic boys and girls, one bank, two telegraph offices, five hotels, seven stores, two carriage factories, the McDonald College of Agriculture, and is a favorite resort during the summer months. Population, 1,800.

For portions of July 8 and 9, departmental dredge *Nipissing* was leased to the Vaudreuil Spring Syndicate for a consideration of $9.50 an hour, including time lost in towage from Hudson to St. Anns and back.

Dredge was retained 11½ hours, which, with the 10 hours of towage, made the Syndicate's liability to the Crown total $204.25.

The object of dredging was to provide a bed for a water pipe proposed to be laid between Ile Perrot, at Pointe Bucy, and St. Anns. The very hard material found prevented dredge from taking out more than 10 cubic yards.

STE ANNE DE CHICOUTIMI.

The parish of Ste. Anne is situated on the Saguenay river opposite the town of Chicoutimi, its population is about 2,000 inhabitants.

There is a ferry, plying every hour, between Chicoutimi and this place.

During the last fiscal year, the sum of $269.09 was expended to repair the flooring of the wharf.

Work started May 3, and was discontinued October 27.

STE. ANNE DE LA POCATIÈRE.

The village of Ste. Anne de la Pocatière, in the county of Kamouraska, is situated on the south shore of the St. Lawrence, seventy-four miles below Quebec. It has a population of 2,500.

Agriculture is prosperous, and the place is flourishing; there is a station of the Central Experimental Farm, of Ottawa; also agricultural and classical colleges.

The trade is considerable, and consists in farm produce. It includes also wood and iron works.

In order to provide shelter from east wind and to increase the depth of water available at high tides, at the outer end of the wharf, it was decided to build an addition 100 feet in length, 28 feet in width on top, with a batter of 1 in 12, and a height of 23 feet, close-faced cribwork, filled with stone.

Tenders were called on October 31 last and the contract is not yet awarded.

The sum of $594.49 was expended during the month of July, 1912, in making general repairs, such as the replacing of 28 feet by 12 feet of face timbers, on the

northern side of the wharf; the northern corner was re-sheathed 5 feet in width on both sides; new ladders were placed at the outer end of the wharf; the freight shed was re-covered and painted; windows were repaired; the flooring and cap pieces were repaired, on a length of 600 feet; one crib was filled with ten loads of stone ballast, and the capping pieces were painted on both sides of the wharf.

STE. ANNE-DES-MONTS.

The Ste. Anne river flows into the St. Lawrence at the west end of the village of Ste. Anne-des-Monts, one of the oldest and most important establishments of the Gaspé peninsula, some fifty-seven miles below the nearest railway station, Matane. Several saw-mills are in operation.

During the fiscal year, a substructure of 220 feet was built over mattresses on the breakwater site.

The superstructure of the training pier, damaged on account of insufficient ballast, on a length of 200 feet, was repaired and sheet piling commenced. On account of lack of funds, it had to be discontinued. The work for a length of 500 feet had to be left without stone ballast for a height of from 6 to 9 feet.

Expenditure, $4,647.72.

ST. ANTOINE.

*Dredging.*

St. Antoine is a post village and parish in Verchères county, on the west shore of the Richelieu river, seven miles southeast of Contrecœur station on the Q.M. & S.R.R., and fifteen miles north of St. Hilaire. It contains one Roman Catholic church, three stores, one temperance hotel, one carriage factory, one wood factory, besides telephone service. Population, 1,500.

From July 15 to September 17, departmental dredge *Richelieu* worked at St. Antoine, nearly opposite the parish church.

Some 18,390 cubic yards of clay were removed and dumped from one-quarter to two miles downstream. Width of cuts, 22 feet; depth, 1½ to 4 feet; distance advanced, 5,566 feet; hours of actual dredging, 494½.

Object of dredging was to provide an 8-foot basin and crib seat for proposed government landing pier.

ST. CHARLES.

St. Charles, a post village in St. Hyacinthe county, on the river Richelieu, nine miles from St. Hilaire station. It contains a Roman Catholic church, express and telegraph offices, four stores, one hotel, one branch bank and saw and grist-mills. Population, 1,500.

The department has spent the small amount of $27.03 to repair the storehouse and sidewalk leading to the wharf, damaged by ice during the last freshets.

The general construction is in good condition.

STE CLOTHILDE (GRAND MARSH).

Ste. Clothilde de Châteauguay, a post village and parish in Châteauguay county, on Norton creek, two miles from Holton, and nine miles from St. Rémi, on the G.T. Ry. It contains a Roman Catholic church, two stores, one hotel, two saw-mills and three butter factories, with express and telegraph offices at St. Rémi, and banking facilities at Ste. Martine, capital of the county. Population of parish, 1,000.

The works undertaken by the department consists in excavating Norton creek in order to increase the flow of water during spring freshets, thus drain approximately

18,000 acres of land known as Grand Marsh, which is practically flooded all the year round.

This excavation, which is in solid rock, will be approximately 4 feet deep, by 60 feet wide and 3,450 feet in length. During this season, 600 feet in length, 60 feet in width and about 4 feet in thickness have been removed. The use of two steam drills, three hand drills and dynamite has been the sole means of excavating, as the rock is of a very hard flint species.

Expenditure, including explosive and machinery on hand, $4,470.29.

### STE. CROIX.

In the course of last November, the contractor, Onésime Poliquin, completed the construction of 1,335 feet of open-face cribwork, sheathed all around from top of capping down to ground; the structure being entirely above low-water level.

The structure, measuring 1,335 feet in length, and 20 feet wide on top, was built by contract signed December 5, 1910.

### ST. DENIS.

St. Denis, a flourishing post village and parish of St. Hyacinthe county, on the river Richelieu, eighteen miles from St. Hilaire station, seven miles from Contrecœur, on the Montreal and Sorel railway. The village contains one Roman Catholic church, one convent, one hospital, eight primary schools, one commercial college, one bank, one saving bank, ten stores, one hotel, saw, flour and planing-mills, six butter and cheese factories, three carriage factories, three furniture factories, cutlery, and sash and door factories, one tombstone factory, and one bank (Provinciale), and telephone office. Population, 870.

The pile wharf, built in the autumn of 1909, consists of:—

1. A head-block, 75 feet long, exclusive of 14-foot ice-breaker, 32 feet 5 inches wide, standing 19 feet 3 inches high in 9 feet of water at low level.

2. A stone approach from 56 to 82 feet long and 35 feet wide, with sides riprapped and sloped 1 in 1.

3. A freight shed 20 by 24 feet at downstream intersection of head-block and approach.

The repairs done at this wharf consisted in placing two supporting posts under the shed with about 5 toises of stone to re-enforce the foundation, and stone riprapping the upstream side of the approach, to prevent undermining during spring freshets.

This work was done by day labour.

Expenditure, $296.55.

### ST. ELOI (POINTE À LA LOUPE).

St. Eloi is a post village of the county of Temiscouata, on the south shore of the St. Lawrence, seventeen miles below Rivière-du-Loup. It has a population of 1,000, mostly farmers.

The sea-moss industry constitutes one of the chief resources of the community, and to help this trade, a small landing pier was built in 1909. It was extended during the last fiscal year by the construction of an addition 50 feet long, 30 feet wide on a mean height of 10 feet. The old portion of the wharf, which was too low, was raised 4 feet on a length of 60 feet. As it stands now, the wharf has a total length of 192 feet.

The work was performed during the months of June, July and part of August.

The expenditure for the fiscal year is $1,499.05.

STE. EMELIE.

In the ice-shove of April, 1912, the river and batture ice of Grondines narrows and point, after acting as a dam to back up water, suddenly gave way and came down, crushing against the landing pier at Ste. Emélie de Lotbinière, injuring the 8-inch sheathing on the west slope of wharf:—

The contact of such a mass of ice with the wharf, at about half tide, and striking it about middle of the roadway, at its narrowest, pushed the structure, at that point, out of alignment some 13 inches on a length of 110 feet.

An examination of the structure, made later on, showed that it needed more ballasting; this was done to the extent of placing one hundred toise of stone where needed.

STE FAMILLE.

Ste. Famille is situated on the north shore of the island of Orleans, in the county of Montmorency, about eighteen miles below Quebec.

During the present fiscal year, the contract of Mr. Napoléon Trudel, for the construction of the extension to the wharf at Ste. Famille, I.O., was duly completed.

This new construction consists in a cribwork extension 240 feet long by 30 feet wide, with an average height of 20 feet.

STE. FÉLICIEN.

The dredge *Lac St. Jean* worked from June 8 to 13 in the river Ashouapmouchouan.

STE. FÈLICITÈ.

Saint Félicité, in the county of Rimouski, is situated on the south shore of the St. Lawrence, about eleven miles east of Matane.

Ste. Félicité is a farming settlement, and also a lumbering district. There is a small saw-mill.

On October 5, 1912, an Order in Council was passed authorizing the acceptance of the tender of Misael Bernatchez, of Montmagny, in the sum of $13,450 for the construction of a landing pier which will have the following dimensions: 440 feet in length by 22 feet in width, built of open-faced cribwork, and a head-block of 100 feet in length by 30 feet in width, having a batter of 1 in 12, to be built close-faced.

Amount expended to March 31, 1913, $1,328.20.

ST. FRANÇOIS DU LAC.

St. François du Lac is the county town of Yamaska county situated on the west side of the river St. Francis, nine miles above its mouth, where it empties into lake St. Peter. It is a station on the Quebec-Montreal Southern Ry.; the population of the town is 700; it has a post office, two telephone systems, one Roman Catholic church, one convent, three general and three grocery stores, one brick factory, one sash and door, and metal cheese basin factory. The registry office for the county is situated here and the sittings of the Circuit court are held here. Abenakis Spring, a very popular health resort, is situated on the river about three miles below St. François du Lac. The surrounding district is rich agriculturally; exports are hay, butter, cheese, cattle, brick and pine timber.

St. François du Lac wharf, built in 1908-9, consists of:—

1. A pile head-block 21 feet wide, 142 feet long outside face, upstream 48 feet, of which is 13 feet 2 inches above zero gauge, the remaining 94 feet being at 9 feet 4 inches, to be used at low water. Head-block protected by close-face crib ice-breaker,

30 by 25 feet, sunk in 8 feet of water and raising 16 feet 7 inches above zero gauge; 8 feet of water all along head-block.

2. An earth and stone approach 800 feet long and 30 feet wide.

On May 20, 1912, authority was received to expend the sum of $100, and on November 14, 1912, authority was also received to expend $30, all by day labour.

Work was commenced on June 13, and carried on intermittingly until November 30, 1912, and consisted in grading, with gravel and sand, the approach, removing from the wharf about 78 cubic yards of sand laid there by spring flood, renewing 30 feet of coping, repairing the fence, placing the freight shed on the wharf and removing the same above high-water line to a safe position.

In the execution of the above works, some 175 feet b.m. of lumber, 16 fence posts and 3 cubic yards of stone were used.

During the fiscal year 1912-13, the total expenditure was $129.19.

### ST. FRANÇOIS (NORTH), I.O.

St. François (North) is situated on the north side of the island of Orleans, in the county of Montmorency, twenty-five miles below Quebec.

During the present fiscal year, 15 tiers of the face timbers on the east side of the wharf, which were rotten, were renewed, also 13 tiers of the face timbers on the west side of the wharf. All the cross-ties and longitudinals, on a depth of 15 feet from the top of the wharf, were replaced. The flooring and floor stringers were made anew, also the coping. A small freight shed, 15 feet by 26 feet was constructed; 96 fenders, 10 by 10 inches square, were placed on both sides of the wharf to protect the face timbers.

The work was started on July 8, 1912, and completed March 31, 1913.

The expenditure for the present fiscal year, 1912-13, amounts to $2,780.90.

### ST. FRANÇOIS (SOUTH), I.O.

St. François (South) is situated on the south side of the island of Orleans, in the county of Montmorency, twenty-five miles below Quebec.

During the present fiscal year, the building on the wharf was given three coats of paint. Minor repairs were also made to the flooring of the wharf.

The work was commenced on August 20, and completed on October 22, 1912.

The expenditure for the present fiscal year, 1912-13, amounts to $554.26.

### ST. FRANÇOIS REGIS.

St. François Regis is a farming community on the Kiamika river, in Labelle county, with a population of 800.

At its last session, Parliament voted $2,500 for the construction of a small wharf on the Kiamika river, with a view of aiding the development of navigation to Lac aux Ecorces landing on the C. P. Ry., ten miles down stream. The projected boats, however, did not make their appearance, so it was deemed inexpedient to build the wharf.

An examination has been made, with a view of estimating certain back-water effects from obstructions in the Kiamika river, and the matter was reported upon.

### ST. FULGENCE.

St. Fulgence is a post village, situated on the north side of the Saguenay river, some nine miles below the town of Chicoutimi; its population is about 1,000 inhabitants; the only means of communication is by water.

During the past fiscal year, in order to facilitate the traffic between that place and the town of Chicoutimi, a sum of $2,700 was granted to remove boulders situated in the surroundings of the wharf, which can be reached only at high water; also to dredge

a small channel 30 feet in width by 12 feet below extreme low water, upon a length of 1,450 feet. During last season, 800 feet of channel has been dredged, at a cost of $1,785.88.

The work was performed with our steam derrick, to which we have attached a Hayward orange peel bucket of one yard capacity.

The work was started on June 12 and suspended on October 15.

### ST. GEORGES DE MALBAIE.

St. Georges de Malbaie cove is situated just opposite the St. Georges de Malbaie church, in the centre of the parish, some six miles northwest of Pointe St. Pierre, and nine miles southeast of Douglastown, giving altogether some fifteen miles of coast where fishermen are exposed to north and easterly winds, and in case of storms have to seek refuge at Gaspé, or use such small flats that they can haul them high and dry every night.

A breakwater composed of half star-shaped isolated cribs placed at 20 feet spaces had been commenced on October 10, 1911. One crib, with a base of 45 feet, has been built up to 4 feet above low-water level.

This spring, an amount of $606.40 was spent to launch crib, secure it and build it up to coping. This single crib affords good shelter, on a width of somewhat over 100 feet, in the worst storms, to fishing smacks anchored behind, and there is no doubt that the breakwater recommended will give the best of shelter at a minimum cost.

### ST. GERMAIN DE KAMOURASKA.

St. Germain, in the county of Kamouraska, is on the south shore of the St. Lawrence, about eighteen miles west of Rivière-du-Loup. Its population is about 1,500. The trade consists in farm produce, and when a wharf shall be built there, a large quantity of pulpwood coming from the back countries could be shipped by water to better advantage than now.

At the last session of Parliament, the sum of $10,000 was appropriated for the construction of a wharf; contract plans were prepared, but owing to some unsettled difficulties as to the ownership of the land required for the approach and site of the proposed wharf, tenders were not called.

The sum of $100 was expended during the fiscal year on some preliminary work.

### ST. GODFROI.

St. Godfroi, in Bonaventure county, is situated on the north shore of Baie des Chaleurs.

This is an important place, with a population of about 2,500 inhabitants whom, for the most part, are engaged in the fishing industry. Farming is also flourishing there.

The work done during the fiscal year 1912-13 consisted of some urgent repairs to the wharf.

Amount expended, $100.

### ST. HILAIRE.

*Dredging.*

St. Hilaire, a post village in Rouville county, one mile from St. Hilaire station on the G. T. Ry., twenty-two miles east of Montreal. It has eight stores, three hotels, one branch bank, two butter and cheese factories, two carding, one flour and two flax-mills, and a Roman Catholic church. It is a well-known summer resort near St. Hilaire lake. Population of parish, 1,300.

From May 30 to June 21, departmental dredge *Richelieu* worked near St. Hilaire at a locality called Eboulis, opposite the public road, between St. Hilaire and St. Denis, leading to the village of Ste. Madeleine.

Some 6,835 cubic yards of clay were removed and dumped one-quarter of a mile away. Width of cuts, 22 feet; depth, 5 to 8 feet; distance advanced, 1,003; hours of actual dredging, 152½.

Object of this dredging was to provide a 9-foot basin for the accommodation of numerous barges loading hay, cheese and cattle; also for the benefit of ferry and mail boat plying between Belœil station and St. Denis.

ST. IRÉNÉE.

St. Irénée is situated on the north shore of the river St. Lawrence, in the county of Charlevoix, 78 miles below Quebec, and some six miles west of Murray Bay.

During the present fiscal year, a new building, 68 feet long by 24 feet wide, was erected, to be used as freight shed and waiting room. This building is surmounted by a lantern tower.

Minor repairs were also effected to the flooring and floor stringers of the wharf.

The work was done from the 4th July to the 17th August, and at different times during August and September, 1912.

The expenditure for the present fiscal year, 1912-13, amounts to $2,035.66.

ST. JEAN DESCHAILLONS.

The extraordinary spring freshets and high water caused by jamming of batture and river ice, at and above Grondines, suddenly giving way and rushing down, caught the wharf, piling up 20 to 30 feet onto and over it from end to end, causing some damage to the inshore trestle roadway timbers, erected on the side wharf, and which had never been injured before.

Height of water, on 21st April attained 23 feet above low water level of spring tides, or ten feet over wharf, on a level with capping of retaining wall built on side wharf; ice following inshore struck seven of the upright standards, supporting superstructure of trestle roadway approach to wharf, breaking them and pushing back structure some 12 inches, on a length of 100 feet, against the wall.

It was also found that under the action of frosts in the winter, spring melting of snow and consequent heavy running of water down hill, had caused a serious disintegration of the hill and cliff against which abuts east block, on side wharf, and top of inclined trestle approach, exerting an outward pressure thereon to the extent of loosening the under stringers and upright supports of the superstructure of the inclined upper planking projecting into cliff at intersection of roadway approach opened on brink of hill, forcing the block out bodily 12 inches, the whole cutting off safe access to wharf, making it rather inconvenient for circulation to and from the fleet of dredges and others engaged at work at Cap à la Roche, off, above and below the wharf; consequently repairs had to be done in May.

As the steep grade from upper end of trestle and hill approach being too abrupt and consequently requiring fixing up every year, it was found imperative to remove trestle roadway from side wharf and rebuild on another plan by placing it on top of retaining wall under cliff, raising it at the very start 10 feet, with 6 to 7 feet at top or upper end.

This retaining wall is entirely built of cedar timber, 12 feet wide at top; on this were placed, last summer, 7 open-faced crib supports of good sound cedar, measuring 12 feet at base, across the wall and same dimensions sideways for the largest, its height being 20·9 feet, with good batter on both sides; the other six cribs are of same proportional dimensions, according to height allowed for incline grade.

The top pieces to support floor stringers are of British Columbia fir, 12 inches square, and it is intended to use same timber for latter. The outward pressure against the outer end, east block, had been checked last fall by the placing of the additional weight of 37 toises of stone ballast in the block.

ST. JEAN, I.O.

St. Jean is situated on the south side of the island of Orleans, in the county of Montmorency, eighteen miles below Quebec.

During the present fiscal year, 506 planks of the wharf were replaced.

The above-mentioned repairs were effected at different times during the summer season.

The expenditure for the present fiscal year, 1912-13, amounts to $456.71.

ST. JÈRÔME.

St. Jérôme is situated on the west side of lake St. John; its population is about 1,500 inhabitants, mostly engaged in farming. There are several stores and cheese factories. It is the most important farming place of the district.

During the session of last Parliament, the sum of $2,300 was voted towards the continuation of an extension to this wharf.

During the last fiscal year, the addition has been completed for the sum of $2,289.40.

The work consists in an extension in the form of an 'L,' 39 feet in length upon its longest side, 45 feet in length in front, and 19 feet at its shortest side and 25 feet in height.

Work started May 27 and was discontinued March 31.

The work has been carried out by day labour.

ST. JOHNS.

*Dredging.*

St. John, a delightfully situated town of Quebec, chef-lieu of the district of Iberville, on the Richelieu river, twenty-seven miles from Montreal. It contains, besides the district and county buildings, churches for the Episcopalians, Methodists and Roman Catholics, the head office of the St. Johns bank, branches of La Banque Nationale, the Eastern Townships and the Merchants' Banks of Canada, twelve hotels and about 100 stores. Population, 6,410.

From May 7 to May 18, departmental dredge *Richelieu* worked at St. Johns, some 800 feet above the Central Vermont bridge, opposite the military grounds and St. Johns yacht club landing pier.

Some 2,914 cubic yards of clay, sand and stone were removed and dumped half a mile away. Width of cuts, 22 feet; depth, 5 to 6 feet; distance advanced, 499 lineal feet; hours of actual dredging, 76⅔.

The object of this dredging was to provide an 8-foot approach and basin for barges and smaller crafts.

ST. JOSEPH DE LETELLIER.

St. Joseph de Letellier, in the bay of Seven Islands, is situated in the county of Saguenay, 200 miles below Tadousac. It is the episcopal seat of the Roman Catholic church for that part of the north shore from river Godbout to Natashquan; there is a large Indian reserve, and furs are the most important traffic.

During the last fiscal year, the wharf for which a contract was entered into on February 9, 1910, with Napoleon Warren, contractor of Chicoutimi, has been completed.

The contract consists in the continuation of a crib 40 feet by 30 feet; the construction of an approach 40 feet in length by 20 in width, 2 piers 30 feet by 20, one pier 30 feet by 30 feet, one pier 40 feet by 30, a head pier of 60 feet by 40, also one span 25 feet by 20, 3 spans 25 feet by 30. The whole having a length of 424 feet. The contract price was $18,900.

Work started June 7 and was discontinued March 31.

ST. LAMBERT.

*Dredging.*

St. Lambert, town in Chambly county, on the St. Lawrence river, directly opposite Montreal, and on the G. T. Ry., six miles from the city and connected by an electric car system of the Montreal and Southern Counties Railway and by the Victoria bridge. St. Lambert is a railway junction of the G. T. Ry., I. C. Ry., Quebec, Montreal and Southern, and Central Vermont routes. It contains four churches—Methodist, Episcopalian, Presbyterian and Roman Catholic, twelve stores, two lumber mills, one branch bank (Toronto), express and telegraph offices, together with an academy and Roman Catholic day school. Population of parish, 3,350.

From May 10 to May 28, departmental dredge *No. 6* worked at St. Lambert, casting over some 1,083 cubic yards of boulders and gravel. Width of cuts, 50 feet; depth, 2½ to 5 feet; distance advanced, 220 feet; hours of actual dredging, 88½.

Object of proposed dredging is: (1) to provide a 6-foot channel, 100 feet wide, from the Montreal-Laprairie main channel to St. Lambert between Moffat Island and Victoria bridge; (2) to drain St. Lambert bay.

ST. LAURENT, I.O.

St. Laurent is situated on the south side of the island of Orleans, in the county of Montmorency, ten miles below Quebec.

During the present fiscal year, minor repairs were made to the flooring of the wharf; the flooring of the movable slip was renewed.

These works were executed at different times during the summer season.

The expenditure for the present fiscal year, 1912-13, amounts to $681.74.

STE. LUCE.

Ste. Luce, in the county of Rimouski, is situated on the south shore of the river St. Lawrence, about eleven miles east of Rimouski. The station of the Intercolonial railway is four miles south of the village.

Ste. Luce is an important farming place, especially potatoes, which are exported in large quantities by schooners. There is also a good dairy and a cheese factory.

The work done during the fiscal year 1912-13 was the construction of a wharf. The construction of this wharf commenced in the spring and accepted by the department on September 12, 1912, was done by contract awarded to Napoléon Trudel, of St. Irénée, for the sum of $11,968.

This wharf, built in open-face cribwork, is 300 feet in length, 30 feet in width at the top with a batter of 1 in 12, and 20 feet in height at the outer end.

Amount expended, $12,172.50.

Besides the construction of this wharf, an amount of $600 was authorized, on September 7, for the removal of boulders, which work was also done.

Amount expended, $599.97.

ST. MAJORIQUE.

St. Majorique is a large municipality on the north side of the northwest arm of Gaspé harbour, at the mouth of the Dartmouth river, the terminus of traffic over the

maritime road, of the people along the south shore of the St. Lawrence river and the north shore of the outside Gaspé bay.

Approaches and roadway to the outlet of the Dartmouth river were started from the St. Majorique side towards the main channel in September, 1911.

Two hundred and ten feet of embankment, over facine mattresses, were built to the old river bed. Two abutments of 20, by an average of 25, were built to receive a wooden structure of 35 feet span so as to allow continuation of embankment, and 300 feet of embankment was constructed on south side of the old channel, so as to reach a good foundation to resume work in the spring.

During the last fiscal year, the north embankment was extended 1,675 feet from the north shore towards the main channel of Dartmouth river.

Expenditure, $4,920.09.

ST. MARC.

Between St. Antoine and St. Marc, the parishioners living on the west shore of the Richelieu river, about the village of St. Antoine and St. Marc, have petitioned the Department of Public Works for financial aid to construct a wharf to be built on the river, and for which these parishioners have already spent a sum of $500.

It is shown that the freight, consisting of hay and other agricultural products, justified an expenditure; authority was granted to expend a sum of $250.

With this sum, a small wharf was built and was completed by the end of December, 1912.

Expenditure, $250.

*Dredging.*

St. Marc de Cournoyer, a post village in Verchères county, on the Richelieu river, nine miles from Beloeil station on the G. T. Ry., fifteen miles from St. Hyacinthe. It contains one Roman Catholic church, three stores, one saw-mill, two door and chair factories, etc., besides one butter and two butter and cheese factories, and a telephone office. Population of parish, 950.

From June 25 to July 11, departmental dredge *Richelieu* worked in the parish of St. Marc, at a locality called Vieux quai Larue, some three and a half miles down stream or north of the village of St. Marc.

Some 5,451 cubic yards of clay were removed and dumped one-eighth of a mile away. Width of cuts, 20 to 22 feet; depth, 8 to 10 feet; distance advanced, 573 feet; hours of actual dredging, 115¾.

The object of this dredging was to provide a 9-foot basin so as to permit, near shore, the loading of numerous barges of hay, cheese and cattle.

ST. MICHEL.

St. Michel, in the county of Bellechasse, lies on the south shore of the St. Lawrence, fifteen miles below Quebec. The site of the village is picturesque and the place is frequented as a summer resort. The coasting steamer *Champion* calls twice a day, providing good facilities for the shipment of farm produce.

Spring tides rise 21 feet; neaps, 13 feet.

The public wharf at St. Michel is 1,100 feet long and 30 feet wide, with a head-block 50 by 40 feet. The depth of water available at low tides is 7½ feet. Between July and October, 1912, the sum of $492.83 was expended in making the following repairs: The capping pieces were renewed on the whole length of the wharf, some 1,150 feet. Stringers, fenders and sheathing, which were at some places defective, were renewed. Some broken pieces of the flooring were also taken off and replaced.

During the heavy storms of October last, the wharf was damaged. The outer end slip was nearly demolished, and the coasting steamer *Champion* unable to land

at low tide. Other damages were also done to the flooring and rail guards. During the month of March, to get the wharf ready for navigation, some temporary repairs were made to the slip and flooring, and the sum of $195.85 was expended, forming a total expenditure for the fiscal year of $688.68.

### ST. NICHOLAS.

Owing to the ice blockade at Cap Rouge, between Quebec and St. Nicholas, Lévis county, last April, and backing up of water and ice to such a height that it crushed over and onto the wharf at St. Nicholas, from 15 to 30 feet high, causing much damage, especially to the lifting landing slip at outer end of wharf, breaking the upright 12-inch square standards of 17 feet, also top cross bar supporting lifting gear, the two winches operating the lifting slip, one so badly that it was at first laid aside for the scrap heap.

The slip was saved by the prompt intervention of the mayor of the parish, with help, from being carried away or smashed.

The repairs effected were renewals of the two uprights on top bar with pitch pine, 17 feet long for standards, the cross bar 14 feet, all 12 by 12 inches square; both winches were made good by a local skilled blacksmith, using ¼-inch steel plate, bolts, nuts and screws to piece the broken parts together, effecting a saving of some $75 for new ones. Steel wire replaced the old sytem of hoisting chains which had been lost in the flood.

The following materials were used in repairs: 125 feet ¾-inch steel wire, 2 diamond patent double wire-rope blocks and sheaves (10-inch), also 2 single ones, same description, 140 feet of 12 by 12 inch pitch pine, 20 spruce deals of 3 by 9-inch by 12 feet on flooring, 2 additional corner straps, ½ by 4-inch by 12 feet, sheathing and capping on outer end block also repaired, where broken by ice.

### ST. OURS.

St. Ours, an incorporated town in Richelieu county, two miles from St. Roch station, on the shore line division of the Quebec, Montreal and Southern Ry. It contains a Roman Catholic church, ten stores, one hotel, one wagon factory, one cheese factory, one carriage and plough factory and one saw-mill. Population, 900.

The wharf at St. Ours was built in 1910, and consists of a pile construction 151 feet 9 inches in length, divided into an ice-breaker, 19 feet 3 inches; a low level portion 109 feet 3 inches, and a high level wharf of 23 feet 3 inches. This wharf was built along the shore line with 8 feet of water all along its outside face, and was filled to a level along the inside face.

This year, a new road was built to the high level wharf, 6 feet higher than the old road, in order to render the wharf accessible at the time of high-water. A trench 3 feet wide by 3 feet deep was dug along the inner face and filled with stone, in order to protect the filling against erosion.

This road was completed, but requires to be riprapped with stone next year.

Expenditure, $539.56.

### ST. PETER'S CHANNEL.

*Dredging.*

St. Peter's channel separates ile Bouchard from ile Marie and ile Larose, three of the many islands in the St. Lawrence lying between the villages of Verchères and St. Sulpice. This channel is about one and a half miles long.

From May 27 to July 11, the General Improvement and Contracting Company's dredge *Maberly* worked under contract at the western, or St. Sulpice, end of St. Peter's channel, removing some 24,481 cubic yards of clay at a price of 19½ cents a yard,

totalling $4,773.80. Width of cuts, 20 to 25 feet; depth, 1½ to 7 feet; distance advanced, 4,446 lineal feet; hours of actual dredging, 341. Dumping grounds, one and a half miles away.

The object of this dredging was to provide an 8-foot channel 50 feet wide and six miles shorter than the former one between St. Sulpice and Verchères; also to facilitate the loading of local hay and farm produce.

### ST. PIERRE-LES-BECQUETS.

St. Pierre-les-Becquets, a post village and parish in Nicolet county, on the St. Lawrence river, four miles from Batiscan, on the Canadian Pacific railway, nineteen miles east of Three Rivers. It contains one Roman Catholic church, ten stores, two temperance hotels, one carding-mill, two saw-mills, four grist-mills, one tomato canning factory, besides a large convent with 70 pupils; also express and telegraph offices; population of parish, 1,900.

The wharf, built at the foot of the mill leading to the river, consists of: A pile head-block 82 feet 6 inches long and 41 feet wide at top, with an ice-breaker inclined 1½ in 1; a pile approach 60 feet long and 20 feet wide, with an ice-breaker all along; a stone embankment 85 feet long and 20 feet wide with both sides riprapped 1½ in 1.

On September 26, 1912, authority was received to expend the sum of $814.61 by day labour, in repairing the wharf.

Work was commenced on October 11, 1912, and carried on until November 27, and consisted in renewing the sheathing of the front and east side of the head-block, repairing the ice-breaker, renewing 30 planks of the flooring, repairing the earth and stone approach and building a small freight shed 15 by 12 feet in order to protect the freight against the rain storms.

In the execution of the above works, some 11,000 feet of lumber, 5 toise of stone and 1,200 pounds of iron were used.

During the fiscal year 1912-13 the total expenditure was $834.67.

### ST. ROCH.

#### *Dredging.*

St. Roch de Richelieu, a post village in Richelieu county, on the Richelieu river, and on the Quebec, Montreal and Southern railway, eleven miles from Sorel. It contains a Roman Catholic church, six stores, one carriage factory, one brick factory, one cheese factory, one saw-mill, one grist-mill and a sash and door factory. Population, 1,045.

From October 21 to November 9, departmental dredge *St. Louis* worked at St. Roch, opposite the Cie Générale Briqueterie. Some 2,926 cubic yards of clay were removed and dumped one-quarter to three-quarters of a mile away. Width of cuts, 30 feet; depth, 2 to 7 feet; distance advanced, 854 lineal feet; hours of actual dredging, 113½.

The object of dredging was to provide an 8-foot basin in order to facilitate the loading of the Cie Générale Briqueterie's barges.

### ST. ROMUALD.

St. Romuald is situated on the south shore of the river St. Lawrence, in the county of Lévis.

During the present fiscal year, 35 boulders, which were a source of danger to navigation, were removed by blasting.

The works were executed from September 18 to October 19, 1912.

The expenditure for the present fiscal year 1912-13 amounts to $434.90.

ST. SIMÉON.

St. Siméon is situated on the north shore of the river St. Lawrence, in the county of Charlevoix, 107 miles below Quebec.

During the present fiscal year, the flooring and the floor stringers of the wharf were renewed, also all the coping. A new lantern tower was erected on top of the building to replace the old one which was obsolete. The head-block of the wharf was protected by rock-elm sheathing, 4 inches in thickness, and rock-elm fenders, 10 by 10 inches square, were placed every eight feet, centre to centre. One stair on the west corner of the old head-block was closed in order to give more protection to the vessels using said wharf. Repairs were also made to the freight shed, and the building was completely painted. Six ladders were placed.

The work was commenced on August 26 and completed on September 28, 1912.

The expenditure for the present fiscal year, 1912-13, amounts to $2,527.74.

ST. VALIER.

The village of St. Valier, in the county of Bellechasse, is on the south shore of the St. Lawrence, twenty-one miles below Quebec. A good traffic in farm produce is carried on.

In order to accommodate the coasting steamer *Champion* and allow her to stop at better scheduled time, therefore give a better service to adjoining localities, it was found expedient to extend this wharf for a length of 300 feet.

In January, 1912, a contract was entered into between the Government and Alex. Duchesneau, of St. Valier, for the construction of an extension to the wharf, for $11,500, the work consisting in the construction of 300 feet in length by 22 feet in width, built of cribwork, filled with stone.

As it stands now, the depth of water at mean low water spring tides, is 3 feet.

Work was commenced in May and was completed in November, 1912.

STE. VICTOIRE.

Ste. Victoire, a post village and parish in Richelieu county, six miles from St. Robert station, and eight miles from Sorel. It contains a Roman Catholic church, four stores and two flour and saw mills. Population, 1,532.

The department awarded a contract to Charles Papillon and Charles Gouin for $6,996 for the erection of a crib head-block of 44 by 20 feet; a pile head-block 50 by 20 feet, and an approach of 75 by 32 feet of earth filling.

The land necessary for this construction was purchased from Alfred Ribeau, of Ste. Victoire, for the sum of $50, and consists of a plot of 100 by 50 feet on the shore, and a roadway 247 by 30 feet leading thereto from the public highway.

The work is now under construction.

SABREVOIS.

Sabrevois, a post village in Iberville county, on the Richelieu river, and a station on the Quebec, Montreal and Southern and Rutland railways, seven miles from Iberville and St. Johns. It has two churches (Roman Catholic and Episcopal), two stores, one hotel, boys' college and ladies' school, one lumber and saw-mill, two butter and two cheese factories, besides express, telegraph and telephone offices. Population, about 400.

The Sabrevois public wharf, built in 1900, consists of:

1. A pile head-block, 105 by 24 feet 3 inches, including crib ice-breaker;
2. A trestle approach, 160 feet 4 inches by 30 feet;
3. A stone embankment, 546 by 30 feet, with slopes of 1 in 1 on both sides;

4. A right of way, 1,048 by 30 feet leading to King's highway;

5. A shed, 30 feet 4 inches by 23 feet, on piles at downstream intersection of head-block and approach, and another shed 30 feet 6 inches by 24 feet 5 inches on crib near upstream intersection of head-block and approach.

The wharf and approach are in good condition, but the embankment and road leading to the public highway were rendered impassable for any vehicle whatever by the ice-shove.

On the first of August, repairs were started at this embankment, 35 toises of large field boulders were hand-placed in a length of 300 feet and at a mean height of 7 feet, forming an embankment one foot above extreme high water. This surface was covered with a layer of gravel, 1 foot in thickness on a length of 100 feet and a width of 18 feet.

During the winter months, nine toises of stone were hauled on the approach, broken with hammers and spread over an additional 200 feet of roadway surface.

This work was performed by day labour.

Expenditure, $1,368.03.

### SAGUENAY RIVER.

#### *Dredging.*

The dredging in the Saguenay river was done by the Continental Dredging Co., of Montreal. From September 14 to November 16, they were assisted by La Cie Générale des Entreprises Publiques with the dredge *Bruxelle.*

Dredge *Algonquin*—

At the intersection of Chicoutimi and Ste. Anne ranges: From June 11 to June 20, 4,591 cubic yards.

Chicoutimi range: June 21 to September 27, 123,722½ cubic yards; October 11 to October 18, 10,839 cubic yards; November 11 to November 16, 5,774 cubic yards. Total, 140,335½ cubic yards.

In front of Chicoutimi wharf: September 28 to October 10, 7,452 cubic yards; October 19 to November 10, 19,152 cubic yards. Total, 26,604 cubic yards.

Summary of dredging done, 171,330½ cubic yards.

Five cuts were made in Chicoutimi range; there remains one cut, on each side, to be completed.

Dredge *Bruxelle*—

At the head of Valin range: September 14 to September 24, 17,975 cubic yards.

Post St. Martin range: September 24 to October 10, 4,875 cubic yards.

The dredge *Bruxelle* could not work at that place, the material to be dredged being mostly boulders varying in size up to two yards.

Intersection of Valin and Caribou ranges: October 11 to November 10, 48,912 cubic yards.

Caribou range: From November 11 to November 16, 6,160 cubic yards.

Summary of dredging done by *Bruxelle,* 77,922 cubic yards.

Total dredging done during the season 1912, 249,452½ cubic yards.

### SAULT MONTMORENCY.

Sault Montmorency is situated on the north shore of the river St. Lawrence, in the county of Quebec, two miles below Quebec.

During the present fiscal year, the extension to the cribwork revetment wall was continued on a length of 425 feet; the width of said wall is 16 feet, and the height 8 feet. This wall is built on the same principle as the standard cribworks of this department.

The work was commenced on the 18th May, and completed on the 25th June, 1912.

The expenditure for the present fiscal year amounts to $4,741.69.

SHIGAWAKE.

Shigawake, on the north shore of Baie des Chaleurs, in Bonaventure county, is a post village about two miles east of St. Godfroi.

The total length of the wharf is 490 feet, and 19 feet in height at the outer end, with 5 feet of water at low water spring tide.

The work done during the fiscal year 1912-13 consisted of repairs to the planking and to the approach of the wharf. A shed was also built on the wharf.

Amount expended, $499.88.

SOREL.

Sorel, an incorporated city, capital of Richelieu county, on the right bank of the river Richelieu, at the mouth of lake St. Peter, on the Quebec, Montreal and Southern Ry., fifty-two miles northeast of Montreal, thirty-three miles from St. Hilaire. Sorel contains water, electric and gas works, a court of justice, a prison, a fine market, manufactories of engines, boilers, mill machinery, saw, stoves, ploughs, agricultural implements, grates for steam boilers, doors, sashes, leather, bricks, three printing offices, English and French newspapers, three branch banks, twelve hotels, Roman Catholic and Anglican churches, one fine Roman Catholic college, a Protestant elementary school, a convent, a hospital, an orphanage, telegraph, telephone and express offices, and about fifty stores. Population, 9,000.

*High Level Wharf.*

Repairs commenced on this wharf on October 9, which consisted in the renewal of part of the flooring on the portion of the wharf on the St. Lawrence river.

This work was done by day labour.

Expenditure, $563.95.

SQUATECK.

Some eighteen miles east of lake Temiscouata, in the county of Temiscouata, is situated Squateck settlement, which, although quite new, is the centre of a flourishing agricultural district. The only means of transportation for the community is via Cabano and through lake Temiscouata.

In order to provide facilities for the landing of small boats plying on lake Temiscouata, it was decided to extend the wharf, and a crib of 90 feet in length and 30 feet in width was constructed. The shore end of the crib was built level with the old wharf, and it gradually slopes down to 3 feet above the lake level. The wharf has now a total length of 275 feet, with a depth of water 6 feet 3 inches at the outer end, available at the low-water lake level.

The work was commenced on August 26 and completed by October 15.

Expenditure for the fiscal year ended March 31, 1913, is $2,336.95.

STRATFORD.

Stratford Centre, a post village in Wolfe county, on the Maskinonge river, six and a half miles from Garthby station, on the Quebec Central railway, with port on lake Aylmer. It is eleven miles from lake Weedon and fourteen miles from D'Israeli. It has one Roman Catholic church, five stores, one hotel and five saw-mills. Population, about 800.

In 1911, a landing pier was built under contract in lake Aylmer, at Stratford; it consisted of:

1. In a close-faced and stone-filled crib head-block, 40 feet by 40 feet, standing 10½ high in 4½ feet of water at ordinary low level.

2. In a crib and span approach 308 feet long and 16 feet wide, composed of 11 close-faced and stone-filled crib piers 8 by 16 feet and 11 spans 20 by 16 feet.

3. A stone approach 194 feet long, 18 feet wide at top, with sides riprapped and sloped 1 in 1.

During the winter 1911-12, 25 feet long of the coping was broken and carried away by the ice, one nigger-head was also pulled by the ice and three planks of the flooring were broken.

On July 15, 1912, authority was received to expend $20 in repairing the wharf by day labour.

Work was commenced on the 27th and completed on the 30th of July, 1912, and consisted in replacing 25 feet of coping, renewing three planks of the flooring, refastening one nigger-head and grading the stone approach with gravel.

During the fiscal year 1912-13 the total expenditure was $20.

### TADOUSAC HARBOUR.

Tadousac, situated on the north side of the river St. Lawrence, at the mouth of the Saguenay river, is a well known summer resort; population, about 800.

The harbour is on the eastern side of the Saguenay and a mile within Pointe aux Vaches; it is a bay rather more than half a mile wide and a third of a mile deep; it is the best sheltered harbour on the north coast.

During the last fiscal year, the wharf, for which a contract was entered into on July 18, 1910, was completed.

The contract was awarded to Napoleon Warren, for the sum of $31,795.

Work started May 6 and was discontinued September 12.

### THREE RIVERS.

Construction of a timber dock, ice-breaker, railway embankment, earth filling, etc.

The work is located in the western part of the harbour of the city of Three Rivers, opposite the windmill. It consists in the construction of a timber dock of 640 feet long; the construction of an ice-breaker, 115 feet long; an embankment from the back of timber dock, and ice-breaker up to the high-water mark.

These works are under contracts No. 7784, dated May 18, 1910, and No. 8776, dated March 18, 1912, with Messrs. J. J. Collins and V. W. Giroux, as contractors.

Owing to the great flood in the spring of 1912, which kept the water at high level for part of the summer, covering the cribs until July 19, the contractors were unable to resume work for nearly four months. In spite of this disadvantage, all the works connected with the ice-breaker, the first five cribs and the additional crib of 140 feet long, authorized as an extension to contract No. 7784, would have been completed on March 31, 1913, but the unexpected rise of the water in the river in February and March last had again covered part of the wharf, so that the contractors had to stop work once more.

During the fiscal year 1912-13, the ice-breaker was completed, and for the first five cribs in connection with contract No. 7784, all the work required to complete consists in the sheathing, the flooring and about 10 per cent of the stone.

The crib of 140 feet in length had been constructed and sunk at the eastern extremity of the fifth crib on August 21, 1912. On March 31 last, the top of this crib was seven feet above low-water level; it will have to be raised nine feet more for completion, this work representing 22,700 cubic feet.

There were 431 piles, 60 feet long, driven in position, thus completing the four rows of piles to be used as foundations for the coal towers tracks.

With the exception of the stone, all the materials necessary to complete the works have been delivered.

The additional filling in rear of the coal wharf, extending to the ordinary high-water level, also the railway embankment and riprap have been awarded to the same contractors (Collins and Giroux) by contract No. 8776, dated March 18, 1912. This filling represents about 180,000 cubic yards of earth.

During the last fiscal year, earth filling amounts to 10,820 cubic yards, and stone for foundations and rip rap for railway embankment to 2,856 cubic yards. This small amount of filling, during last season, is due to the fact that the contractors have met with serious difficulties in the installation of machinery for operating the pumps and that the electric power was deficient for a great part of the time; then the many big storms during the fall have completely paralyzed the working of the pumps and obliged the contractors to suspend work on filling until the spring of 1913.

During last winter, the contractors improved their pumping system and have acquired better pumps and dynamos than they had last year, so as to be in a position to complete the filling during the coming season.

### TROIS PISTOLES.

Trois Pistoles, in the county of Temiscouata, is an important village on the Intercolonial railway, twenty-five miles below Rivière-du-Loup. The land in the vicinity is fertile, and the place is flourishing. It is somewhat frequented as a summer resort. Along the river Trois Pistoles stand large saw-mills and a pulp-mill. The Government wharf is located on the west side of the entrance of the harbour.

This wharf does not offer sufficient accommodations, especially as a shelter, and at the request of mariners and business men of the place, it was decided to construct a new landing pier where vessels could stay, while loading and unloading, and be under shelter against all winds, as provided by the breakwater built some years ago. The new pier is 200 feet in length, 22 feet in width for 160 feet and the remainder, or head-block, 40 feet in width, the batter being 1 in 12, and the height 14 feet. It is built close-faced, stone-ballasted, and having vertical binders every 20 feet, fastened to face timbers with screw iron bolts. An approach, about 260 feet long, connects the old with the new wharf; advantage was taken of a rock and the construction is partly of large stones piled to a slope of 1 in 1 and partly of cribwork; the mean height is 6 feet.

Owing to a lack of appropriation, the construction of the wharf and approach could not be completed. The work was carried on by day labour, during the months of June, July, August, September and November.

The expenditure for the fiscal year, 1912-13, was $5,995.50.

#### *Breakwater.*

The breakwater, built some years ago, to protect the harbour against north and east winds, being only 18 feet in width, was not heavy enough to resist the ice, which exerts an outward pressure on it, tending to upset it. It has been deemed necessary to widen it and thereby increase its base and weight. Two new cribs were placed at each extremity, being 100 feet long and 20 feet wide at the base, with a batter of 1 in 10, built of round timbers 12 inches in diameter, surrounded with sheet piles 6 inches thick, the height to be 14 feet. The southern end crib was completed with the exception of the sheet piles, and the northern end crib built to about three-quarters of its height, both being filled with stone. The work was built by day labour.

The expenditure for the fiscal year is $3,999.97.

### VALLEYFIELD.

Valleyfield, an incorporated town, port of entry, port of call for the St. Lawrence river steamers in Beauharnois county, on the south of the river St. Lawrence at the head of the Beauharnois canal and at the foot of lake St. Francis. It is a station on

the N. Y. C., and on the G. T. Ry. (Ottawa and Swanton division), nine miles from St. Louis and five miles from Coteau Junction, Soulanges county, fifty miles southwest of Montreal. Population, 10,000.

The work at this place consists in the construction of a head-block of close-faced crib on the bay, 200 feet long by 15 feet wide and 17 feet high, sunk in 12 feet at low-water level, and stone filled, placed at 15 feet and parallel to the shore bank.

Between May 1 to November 30, 150 feet of the crib had been built and fully loaded with stone, and 50 feet long of filling between the shore bank and the crib has been made.

The work was performed by day labour.

Expenditure, $3,299.41.

VARENNES.

*Dredging.*

Varennes is a post village and parish in Verchères county on the St. Lawrence river, and a station on the Quebec, Montreal and Southern Ry., fourteen miles northeast of Montreal. It has one Roman Catholic church and chapel, one convent, one college, branch bank, five stores, one hotel, one planing and three saw-mills, two cabinet factories and one foundry, besides express and telegraph offices. Population of parish, about 2,400.

From July 18 to September 14, dredge *Maberly,* and from August 1 to September 12, dredge *Nehoc,* both the property of the General Improvement and Contracting Company, worked under contract at Varennes, deepening to 10 feet the upstream and downstream approaches to the Government wharf.

The *Maberly* removed 20,784 cubic yards of clay and stone, scowed away four-fifths of a mile. Width of cuts, 12 to 25 feet; depth, 1½ to 8 feet; distance advanced, 3,649 lineal feet; hours of actual dredging, 406.

The *Nehoc* removed 15,413 yards, of same material. Width of cuts, 20 to 30 feet; depth, 2 to 8 feet; distance advanced, 3,614 lineal feet; hours of actual dredging, 295¼.

Total quantity, 36,197 cubic yards, scow measurement, at a contract price of 19½ cents a yard, totalling $7,058.42.

VARENNES-BOUT DE L'ILE.

*Dredging.*

Bout de l'Ile is a post village in Laval county, fifteen miles from Dominion Square, Montreal. It has one large hotel (50 rooms), one large park, one store, one mineral water factory, one butcher shop, two blacksmith shops, telephone station. It is connected by tramways and C. N. Ry. with Montreal. Population, 125.

From June 29 to July 25, departmental dredge *No 3* deepened, to 6 feet, channel of three miles for ferry service connecting Varennes with Bout de l'Ile.

The improvements were made mainly at the foot of ile Ste. Thérèse, ile aux Canards and at the head of ile à la Truie.

Some 6,403 cubic yards of clay and boulders were removed and dumped one-eighth to one-quarter of a mile away. Width of cuts, 15 to 25 feet; depth, 2 to 5 feet; distance advanced, 1,409 lineal feet; hours of actual dredging, 168.

VAUDREUIL.

Vaudreuil, a post village and parish in Vaudreuil county, on the Ottawa river, with port on the Lake of Two Mountains and on the C.P. Ry. 24½ miles from Montreal. It contains one Roman Catholic church, six stores, four hotels, two flour mills, etc., besides telephone, telegraph and express offices. Population of parish, 1,510.

In May last, the freight shed on the Government wharf was destroyed by fire. A new one was erected, dimensions 16 by 20 feet, scantling-framed and clap-boarded, painted two coats and with galvanized iron roof.

The work was done by day labour.

Expenditure, $274.66.

VERCHÈRES.

Verchères, a post village in Verchères county, on the St. Lawrence river and on the Quebec, Montreal and Southern railway, twenty-one miles from Montreal. It contains one Roman Catholic church, twelve stores, one hotel, one branch bank, two saw-mills, two wood and iron factories, one branch bank (Provincial Bank of Canada), one college, one convent, five flat boat builders, also telegraph and express offices. Population, 750.

The Verchères public wharf, built in 1903-05, consists of:—

1. A pile head-block, 97½ by 41 feet, exclusive of ice-breaker, inclined 1½ in 1, and standing 21 feet 5 inches high in 9 feet 5 inches of water at low level.

2. A pile approach, 224 feet by 20 feet, with ice-breaker all along.

3. A stone approach, 133 by 20 feet, with sides riprapped and slope 1 in 1.

On November 18, work commenced and consisted in the construction of:

(*a*) An extension of 70 feet long by 22 feet wide on piles, to be placed at the southeast inner angle of the head-block and approach.

(*b*) The erection of a movable freight shed, 50 feet long by 20 feet wide, to be placed on the said extension.

Twenty-four piles have been driven, caps and stringers have been bolted and the floor and the extension completed by the 15th day of December, 1912.

During the winter months, the movable freight shed, 50 feet long by 20 feet wide, was constructed in panels, ready for erection when navigation opens.

This work was performed by day labour.

Expenditure, $2,098.41.

*Dredging.*

From August 26 to October 5, the W. J. Poupore Co.'s dredge *Prince Willie* worked under contract at Verchères. An outer 10-foot basin, from 263 feet to 126 wide and 166 feet long and, for smaller boats, an inner 6-foot basin, 126 by 125 feet, were made immediately downstream of the Government wharf. Some 17,096 cubic yards, or 15,615 yards, place measurement, of clay and sand were removed and dumped one and a quarter miles away (less some 1,660 yards, scow measurement, which were cast over along the downstream side of basin). Width of cuts, 24 to 45 feet; depth, 1½ to 12 feet; distance advanced, 1,294 lineal feet; hours of actual dredging, 339½.

Contract price, 29 cents a cubic yard, place measurement, totalling $4,528.35.

VERDUN.

Verdun, an incorporated village, in Jacques Cartier county, lying to the southwest of the city of Montreal, and separated from it by the tail race of the Montreal water works, and one mile from St. Paul station on the G. T. Ry. It contains four churches—Roman Catholic, Anglican, Presbyterian and Methodist, a number of stores, a large laundry, ice-house, one hotel, one Protestant hospital for the insane, one branch bank and a large seminary. A ferry runs to La Tortue on the south side of the St. Lawrence, and there is a good electric car service to Montreal. Population, 18,000.

It was requested by the municipality of Verdun that the site of the old wharf, built in 1899-1900, be changed to a new site situated 4,500 feet upstream, for two important reasons, viz., that the old wharf was an obstruction to the construction of the protection dyke, and that the new site would considerably shorten the crossing over the St. Lawrence river to La Tortue.

This request was granted, and an appropriation of $3,300 voted by Parliament last session for the construction of the proposed wharf.

The work consisted of:—

(a) A close-faced and stone-filled crib head-block 90 feet long, 40 feet wide, 13 feet high, sunk in 8 feet at low-water level;

(b) A stone approach, 85 feet long and 30 feet wide at top, with sides riprapped and sloped 1 in 1;

(c) A roadway, 25 feet wide, rising 1 in 10 to the public road with the river slope, riprapped 1 in 1.

On November 30 last, the crib head-block was completed and fully stone-filled. In order to open that wharf for traffic, pending the construction of the new one, the sum of $250 was spent on the old wharf to remove obstructions which the municipality of the town of Verdun had deposited thereon.

Total expenditure, $3,300.

VILLE MARIE.

Ville Marie, a village in Pontiac county, with a population of 850, is located on the east shore of lake Timiskaming. The traffic over the wharf, during the season 1912, shows freight shipped, 1,675, and freight received, 2,239 tons.

Minor repairs were made to old wharf, acquired by the Government in 1887, April 26 to May 25. The planking on both sides of approach was renewed 350 feet by 4 feet, as well as a patch on landing head 14 feet by 32 feet. Four floor stringers, 10 by 10 inches by 22 feet were put in.

Expenditure to March 31, $220.60.

Contract plans and specifications were prepared and transmitted for a new pile-work dock, 145 feet by 145 feet, with approach 32 feet wide and 384 feet long, towards which Parliament appropriated $10,000. Tenders were called for and the contract, under date March 28, awarded to R. Brewder, Ottawa, at $17,971.93. Work is just now being put under way by the contractor.

WOBURN.

Woburn is a post village in Compton county, on the Arnold river, eighteen miles from Megantic station on the C. P. Ry. The public wharf, built with four others on lake Megantic between 1882 and 1887, is situated about five miles north of the village on the west shore of lake Megantic, in Compton county.

It consists of a close-faced crib head-block, 30 feet 7 inches by 51 feet 6 inches, with an enclosed shelter and waiting room standing 6 feet above and in 7 feet of water. It is connected to shore by a crib approach 142 feet long.

On July 15, 1912, authority was received to expend the sum of $423.86 by day labour, in repairing the wharf and approach which had been damaged by the high water and ice of the preceding spring.

Work was commenced on August 8 and completed on September 4, 1912, and consisted in filling in with stone and gravel the approach; placing on both north and south faces of the wharf an 8-inch spruce sheathing secured to the wharf by ⅝-inch round iron spikes 12 inches long; the roof of the freight shed was also repaired.

In the execution of the above works, some 3,712 feet b.m. of spruce, 7,450 feet b.m. cedar, 500 spikes and 72 cubic yards of stone and gravel were used.

During the fiscal year 1912-13 the total expenditure was $422.60.

WOODLANDS.

*Dredging.*

Woodlands, a post village in Chateauguay county, and a station on the St. Lawrence and Adirondack railway, two miles from Chateauguay.

From June 12 to July 19, dredge *Mogul* and from June 12 to Aug. 29, dredge *Central City*, both the property of the General Improvement and Contracting Co., worked under contract at Woodlands, deepening a 9-foot channel 75 feet wide through a shoal opposite the Durocher wharf, some one and a half miles northeast of the Government wharf at Boisbriand.

Dredge *Mogul* removed 20,772 cubic yards of clay and sand. Width of cuts, 15 to 30 feet; depth, 2 to 8 feet; distance advanced, 3,046 lineal feet; hours of actual dredging, 323.

Dredge *Central City* removed 44,270 yards of same material. Width of cuts, 10 to 30 feet; depth, 2 to 7 feet; distance advanced, 9,150 lineal feet; hours of actual dredging, 646. Dumping grounds, half mile away.

Total quantity removed was thus 65,042 cubic yards, scow measurement, which were reduced to 63,019 yards on account of dredging below grade. At contract price of 16 cents totals $10,083.04.

The object of this dredging was to allow boats on the Beauharnois-Montreal line, such as the *Princess*, *Empress* and *Beauharnois* to more easily reach the Government wharf at Boisbriand.

### YAMASKA RIVER.

The river Yamaska rises in the county of Brome, and after a course of over ninety miles, falls into the St. Lawrence river at the head of lake St. Peter. By the construction of a dam and lock, built in 1882, about two miles below the village of St. Michel d'Yamaska, the river was rendered navigable for a distance of about twenty miles from the mouth of the river. The channel has, of course, to be maintained by occasional dredging.

Dredging was performed by dredge *St. Louis*, attended by tug *Daisy*, and commenced on June 5, 1912, and was carried on until October 15, 1912, and consisted in the removal of 31,370 cubic yards, scow measurement, of sand and clay; the place measurement resulting from survey is 30,259 cubic yards.

A cut was made 30 feet wide and 1,200 feet long, dredged to 8 feet below low-water level; average depth of cutting, 4 feet.

Two other cuts were made having a total width of 50 feet, and 3,900 feet long; finished depth, 8 feet below low-water level; average depth of cutting, 3 feet 5 inches.

## PROVINCE OF ONTARIO.

### ARNPRIOR.

Arnprior, the principal town in South Renfrew, is located at the mouth of the Madawaska on the south shore of Chats lake, an expansion of the Ottawa river, has a population of about 5,000.

Owing to appropriation having been found inadequate by party who was to carry out minor repairs to broken wooden fender, etc.; at downstream corner of wharf, certain timber only was secured for waling and fenders. The necessary repairs will be carried out during the season 1913.

Expenditure to March 31, $24.30.

### BARRY'S BAY.

Barry's Bay (population 300) South Renfrew, is a village on the G.T. Ry. line, and terminus of navigation on the Madawaska river.

Minor repairs were made in October to wharf flooring.

Expenditure to March 31, $25.24.

BAYFIELD.

Bayfield is a village situated on the east shore of lake Huron, in the county of Huron, at the mouth of the Bayfield river, twelve miles south of the town of Goderich. Population, about 600. There is a saw-mill and a flour mill at this point. It is a harbour of refuge for light draught vessels drawing not more than 10 feet of water.

Work of repair was commenced on August 10, and completed on November 14, and consisted of the renewal of face timbers and a portion of the decking on outer end of north pier, as also renewal of capping pieces and other minor repairs to south pier.

In the execution of this work, 2,980 feet b.m. of cedar, hemlock and beech timber, and 3,400 pounds of iron were used.

The work performed was merely sufficient to preserve the piers from destruction by storms, and to permit of occasional shipments of lumber being made over the south pier.

The traffic at this point is very light, the principal use of the harbour being for fishing boats.

The expenditure during the fiscal year 1912-13, was $144.56.

BAYSVILLE.

Baysville, district of Muskoka, is a small village of 200 inhabitants, situated on the south branch of the Muskoka river, distant sixteen miles east from Bracebridge, the nearest railway station.

Owing to the impracticability of giving the new shelter on the wharf two coats of paint before the end of the preceding fiscal year, as the first coat had not dried sufficiently, a second coat was given it in June of this year.

The shelter is 16 by 40 feet, and the warehouse 14 by 16 feet by 11 feet 9 inches high.

Total expenditure for fiscal year 1912-13, $40.

BEAUMARIS.

Beaumaris, district of Muskoka, is a summer place with a population of 1,000, situated on Tondern island, lake Muskoka, about thirteen miles from Gravenhurst. It is the central distributing point for the Muskoka lakes. From 18 to 20 boats call daily during the season.

On April 9 last, authority was given to expend the sum of $2,000 for the construction of a wharf, for which a contract was awarded on September 12, 1911, to the Union Construction Co., of Ottawa, for $22,994.

Work was resumed on January 22, and carried on till June 20, and consisted in the construction and placing in position of the substructure and the moulding of concrete blocks for the superstructure; also the construction of the stone approach, 82 feet long by 20 feet wide at outer end widening to 40 feet at the shore end. The wharf has a length of 280 feet of which 140 is 20 feet wide and 140 is 30 feet wide.

On June 11 last, authority was given to expend the sum of $100 in repairs to the old wharf by day labour.

Work was carried on from July 11 to 19 and consisted in renewing, where required, the decking.

In doing this work some 2,000 feet hemlock and 75 pounds of iron were used.

Total expenditure for fiscal year 1912-13, $82.20.

BEAVERTON.

Beaverton is a thriving village, also a summer resort, situated on the easterly shore of lake Simcoe, seventy-two miles north of Toronto, and in the county of Ontario. Population, about 2,500. It is on the line of the Midland branch of the Grand Trunk railway, and is a station on the Canadian Northern Ontario railway.

On April 9 last, authority was given to expend the sum of $15,000 for harbour improvements, and instructions were issued to prepare contract, plans and specifications for same.

These were duly prepared and the contract awarded to Mr. D. Conroy, of Peterborough, for the sum of $41,874.

The work has not yet commenced, but will consist of the removal of a portion of the existing cribwork to low-water line and placing concrete thereon, then filling the spaces with large stone to form a breakwater, having a length over all of 792 feet with 'L'-shaped head-block, 50 by 20 feet; also a line of sheet piling, 550 feet in length, and the dredging of the channel between the piers and in the approaches to a depth of 9 feet below mean water level in lake Simcoe.

Work was commenced March 1, and is still in progress, and consists in the assembling of materials only.

Total expenditure for fiscal year 1912-13, $2,444.

BELLE EWART.

Belle Ewart, Simcoe county, is situated on lake Simcoe on the northwest shore of Cook's bay. It is a popular summer resort and has a transient population.

On April 9 last, authority was given to expend the sum of $5,400 towards the construction of a wharf, and instructions were issued to prepare contract, plans and specifications for same.

These were duly prepared and the contract awarded to Mr. Henry Hickey, of Peterborough, for the sum of $8,000.

The work will consist in the construction of a wharf of cribs and spaces, 400 feet long by 16 feet wide, and a stone approach 250 feet long by 16 feet wide on top.

BELLE RIVER.

Belle River is a prosperous village situated on the south shore of lake St. Clair, and on the London and Windsor division of the G. T. Ry. ninety-three miles from London and seventeen miles from Windsor. It is a French settlement of about 1,000 inhabitants. It is a harbour of refuge for light draught vessels when crossing lake St. Clair. The traffic into the port consists principally of the importation of sand, gravel, lumber and other building materials. Several fishermen work out of this harbour. Customs collected at this point during fiscal year 1911-12, amounted to $1,121.94.

Owing to the fact that the passenger and packet freight steamer running between Chatham, Windsor and Detroit refused to make Belle river a port of call, it was decided not to expend more than $450 on works at this point, which were to consist of the renewal of sheet piling with other slight repairs.

The material for this piling was purchased, and is now on the ground, but the work was not done.

Total expenditure between April 1 and November 30, 1912, is $5,273.37.

*Dredging.*

During the past season, a channel 50 feet wide and 10·5 deep below L.W.L. was made, extending from the mouth of the river 1,500 feet out into lake St. Clair.

The object of this work was to open up the old channel which had filled in.

The work was done by the Windsor Dredging Company with dredge *Peltier*, between August 12 and September 16, 1912, and by the Government dredge *Ontario*, between September 18 and October 8, 1912.

The quantities removed were as follows:—

(*a*) Windsor Dredging Co., 17,116 cubic yards, scow measurement, of sand and clay; 4,188 cubic yards, place measurement, of sand and clay. This latter quantity

of material required to be overcast so as to permit the dredge to cut a temporary passage into the harbour and to provide the necessary sea room.

(*b*) Government dredge *Ontario,* 8,090 cubic yards, scow measurement, of sand and clay.

The cost of the contract work was as follows:—

| | |
|---|---|
| 17,116 cubic yards, S.M., at 25 cents | $4,279 00 |
| 4,188 cubic yards, P.M. at 15 cents | 628 20 |
| | $4,907 20 |

Total cost of dredging and inspection, $5,005.40.

BELLEVILLE.

Belleville, Hastings county, has a population of 12,000 and is one of the most important cities on the main line of the G. T. Ry. It has a number of large manufacturing concerns, the most important being Deacon's shirt factory, Pringle's sash, door and blind factory, March and Hawthorne's foundry and Provincial Steel Co. The products of the latter two are almost exclusively shipped to the west by water. There is also a knife factory and a cheese factory, the products of these two being shipped by water to Montreal.

During the season of navigation, there are two vessels which call at the port twice daily, and two that call weekly, and it is claimed that if there were sufficient accommodation the number would be increased.

When the Trent valley canal is completed it is expected that the traffic on the bay will be more than doubled.

On April 9 last, authority was given to expend the sum of $50,000 towards harbour improvements, and instructions were issued to prepare contract, plans and specifications for same.

These were duly prepared and forwarded to Ottawa, but to date the work has not been awarded.

The proposed works consist in the construction of a wharf of cribs and spaces, having 14 cribs 20 by 30 feet and 14 spaces 20 by 30 feet, and a head-block 75 by 200 feet connected to the shore by a stone approach 210 by 30 feet, also the dredging of an approach to same to a depth of 12 feet below low-water level.

Up to date there has been no expenditure.

BIG BAY.

Big Bay, Grey county, is situated on the Georgian bay, about 16 miles from Owen Sound, in a farming community. It has communication, by boat, with Wiarton, White Cloud island, Griffith's island and Owen Sound.

On April 9 last, authority was given to expend the sum of $5,000 towards the reconstruction of the wharf, and instructions were issued to prepare contract, plans and specifications for same.

These were duly prepared, and the work awarded to Mr. J. Hoddick, of Toronto, for the sum of $5,448.40.

Work was commenced October 4 and closed for the season on November 5, and was resumed again on March 20, and is still in progress.

The work done, to date, consists in the assembling of the materials and the tearing down of the old work in readiness for the new superstructure and the reconstruction of the approach.

The wharf has a length of 483 feet, of which 96 feet at the outer end is 25 feet in width, and 247 feet is 14 feet in width, with a stone and gravel approach 140 feet in length.

Total expenditure for fiscal year 1912-13, $1,856.76.

BIG BAY POINT.

Big Bay point, county of Simcoe, is situated on lake Simcoe at the southeast end of Kempenfeldt bay. It has a transient population and is patronized by tourists during the summer season.

On April 9 last, authority was given to expend the sum of $7,500 towards the construction of a wharf, and instructions were issued to prepare contract, plans and specifications for same.

These were duly prepared, forwarded to Ottawa, tenders called, and the work has been awarded to Mr. Henry Hickey, for the sum of $7,500.

The work consists of the construction of a wharf of cribs and spaces 260 feet long by 16 feet wide; 'L' at outer end 50 by 16 feet, and a stone approach 100 feet long by 16 feet wide on top.

Work was commenced January 31 and is still in progress.

The work done consists of the assembling of materials only.

Total expenditure for fiscal year 1912-13 is $81.53.

BLIND RIVER.

Blind River, District of Algoma, is a village of some 2,500 inhabitants, situated on the north channel of lake Huron, and is a station on the C. P. Ry. Extensive lumbering operations are carried on at this place.

On April 9 last, authority was given to expend the sum of $1,000 in repairs to the wharf by day labour.

Work was commenced July 2 and carried on till July 6, from August 8 to 30, and from September 18 to 25, and consisted in placing timbers along the east side for a length of 30 feet, replacing timbers on top of wharf and renewing the decking where necessary; driving a cluster of piles at southwest corner of the wharf, and placing four new mooring hooks, also bracing all roof trusses in the warehouse and placing iron plates on sides of doorways of same.

In doing this work, some five piles, three pine logs, 6,907 feet b.m. oak, 6,889 feet b.m. hemlock, and a large quantity of bolts were used.

*Dredging.*

On May 30 last, authority was given to perform certain dredging, for which a contract was awarded to the C. S. Boone Co., at 15½ cents per cubic yard, place measurement.

Work was commenced June 18 and closed for season, owing to rough weather, on October 19 last.

The work consisted in dredging to a depth of 18 feet below zero, allowing one foot for sub-grade, in the channel and approaches to the Government wharf, for a width of 150 feet.

In doing this work, some 57,197 cubic yards of sand, place measurement, were removed.

Total expenditure for fiscal year 1912-13 is $9,242.33.

BRITANNIA.

The departmental dredge *Deschêsnes* worked at Britannia, on lake Deschêsnes (May 17 to May 27), removing bottoms of two old piers east of landing pier, which were treacherous and cause of great annoyance to pleasure craft plying on these waters.

Some 673 cubic yards of stone, sand and timber were removed, to elevation 184, and spoiled one-half mile from landing pier.

BRONTE.

Bronte, Halton county, is situated on the north shore of lake Ontario, twenty-seven miles southwest of Toronto. Population, 350.

On April 9 last, authority was given to expend the sum of $875 in wharf repairs, by day labour.

Work was carried on from September 11 to October 11, and consisted in laying 180 feet of new decking, 16 feet wide and 3 inches thick; putting new joists under the decking and new coping the whole length of the decking; replanking 150 feet of pier, where required, and placing 60 feet of coping on same, also placing one new mooring post. This work was all done on the east pier.

In doing this work some 60 feet b.m. oak, 929 pounds of iron, 17,674 feet b.m. pine, one gallon white paint, also a quantity of timber, previously purchased, were used.

Total expenditure for fiscal year 1912-13 was $873.07.

BURLINGTON.

Burlington, county of Halton, is situated on the north shore of lake Ontario, about ten miles from the city of Hamilton. Population, 1,500. It has canning factories, basket factories, two barrel factories and two planing mills.

On April 9 last, authority was given to expend the sum of $25,000 in the construction of a revetment wall to prevent the erosion of the shore, and instructions were issued to prepare contract, plans and specifications for same.

These have been duly prepared and tenders called, but up to date the contract has not been awarded.

The work will consist of a concrete retaining wall 2,000 feet in length by 8 feet wide at the base and 3 feet wide at the top, and being, approximately, 6 feet 3 inches high, and is for the protection of the shore where the lake has dangerously eroded same.

BURLINGTON CHANNEL.

Burlington channel, Wentworth county, is simply a cut through a piece of low-lying land which separates lake Ontario from a large sheet of water called Burlington bay, thereby enabling vessels to reach the wharfs at the city of Hamilton. Over this cut we have erected a swing bridge. The cut is 120 feet in width, and on the northerly side there is a cribwork pier 2,326 feet in length, and on the southerly side a pier 2,722 feet in length, of which 2,210 feet is composed entirely of cribwork and piling and the remaining portion, 512 feet, has a substructure of piling and of cribwork with a concrete superstructure having a width of from 40 feet at the outer end to 22 feet adjoining the cribwork portion. The Department of Marine and Fisheries have erected a lighthouse on the east, or lake end, of this pier.

On April 9 last, authority was given to expend the sum of $5,000 for the maintenance of swing bridge, and $850 for the replanking of the bridge, also to have the Dominion Bridge Company install certain new parts of the bridge machinery to replace those that had become worn out.

The bridge decking was renewed and the new parts installed.

Navigation closed for the season on December 21 last, when the lights were put out, and navigation was opened again on March 24.

Total expenditure for fiscal year 1912-13 is $3,161.49.

BYNG INLET.

Byng inlet, district of Parry Sound, is situated on the Maganatawan river, about two miles from the Georgian bay, and is a village of some 1,500 inhabitants. Large lumber mills are located at this place. The coal docks of the C. P. Ry. are also located here and handle immense quantities of coal.

*Dredging.*

On February 19 last, authority was given to have certain dredging performed immediately on the opening of navigation, and for which a contract was awarded to the C. S. Boone Co. at the following rates, scow measurement: rock, $5.49; other materials, 25 cents.

Work was commenced May 29 and completed July 5, and consisted in the removal of two points of rock which projected into the steamer channel from either side. The channel is now 150 feet wide by 22 feet deep. This work was to remove the shoal spots and thereby enable vessels using the channel to load to the full canal depth.

In doing this work, some 3,870 cubic yards were removed.

The total expenditure for the fiscal year 1912-13 is $21,256.30.

CACHE BAY.

Cache Bay is a lumbering centre on the north shore of lake Nipissing, in Nipissing district, and is on main line of the C. P. Ry. Population, 889.

Owing to the whole appropriation for a pilework wharf not being available it was necessary to consider only building the stone approach, driving piles and placing capping and braces before the end of the fiscal year.

The approach, 125 feet long by 16 feet wide on top, was built entirely of stone with a gravel crown 1 foot deep. Work started October 25 and was discontinued December 6, until ice became sufficiently strong to drive piles.

Work was proceeded with February 22 to March 31. During this period, all the piles were driven, capping and stringers placed and some 75 per cent of bracing completed. The flooring will be placed and freight shed built early during coming season. The completed structure extends out 389 feet, drawing 6.5 feet at landing head, 40 by 40 feet.

Expenditure to March 31, $2,054.94.

CALLENDAR.

Callendar, district of Parry Sound, is a town of some 1,000 inhabitants, situated on the east shore of lake Nipissing, on the north branch of the G. T. Ry., nine miles south of North Bay. Lumbering and general business is carried on.

On 19th June last, authority was given to expend the sum of $84, in repairs to the wharf, by day labour.

Work was carried on from 12th to 16th August and consisted in renewing the decking where required.

Total expenditure for fiscal year 1912-13 is $80.95.

CHARLTON.

Charlton, a village in Nipissing district, with a population of 200, is located on the south branch of the Blanche river, thirty miles above Tomstown.

Approach to wharf graded (September 10-October 8) to average 2½ feet high, about 180 cubic yards of stone and gravel being used, and 500 lineal feet 8 by 8 inch cedar; 140 lineal feet, averaging 1¾ feet, of cutting of ditch was done, and stumps were cleared from an area of 225 feet by 30 feet on roadway leading to approach.

Expenditure to March 31, $288.80.

COBOURG.

Cobourg, county of Northumberland, is a large town on the north shore of lake Ontario, on the main line of the G. T. Ry., sixty-six miles east of Toronto. Population 5,000. The large ferry *Ontario No. 1* plies between this port and Charlotte, N.Y., bringing to Canada immense quantities of coal for the G. T. Ry.; she also carries a

large number of passengers. Cobourg is also a port of call for the regular passenger boats plying between Toronto and Montreal. The ferry plies between Charlotte and Cobourg all the year round,

On 9th April last, authority was given to expend the sum of $25,000 in the extension of the west breakwater, and instructions were issued to prepare contract plans and specifications for same.

These were duly prepared and forwarded to Ottawa and tenders called on two different occasions, but those received were so high that the work was not awarded; it was decided to perform same by day labour, and instructions to do so were issued on January 30 last.

This work was commenced 27th February, and consists in the arranging for the supply of materials. The work is still in progress, and when completed will consist in the construction of an extension 225 feet in length, having cribwork substructure and concrete superstructure.

On 9th April last, authority was given to expend the sum of $10,000 in repairs to the north end of the east pier, by day labour, and work was commenced 17th May and completed 21st December.

The work consisted in the renewing of the superstructure of the east pier for a length of 205 feet, a width of 25 feet and a height of 6 feet, also renewing the decking and timbers at various places, where required, on the east and west piers.

On 3rd October last authority was given to expend $100 on repairs to the centre pier, and this work was duly performed.

In doing this work some 21,559 feet b.m. hemlock, 71,459 feet b.m. pine, 14,287 pounds of iron, 9 cords stone, 45 cubic yards gravel, and 45 bags of cement were used.

*Dredging.*

On June 7 last, authority was given to have certain dredging performed, for which a contract had been awarded to Mr. W. E. Phin at 19½ cents per cubic yard, scow measurement. However, this contract was transferred to the General Construction and Dredging Co.

This work was commenced 23rd October, but owing to rough and unfavourable weather, closed for the season 2nd November.

During this period, the dredge removed 2,915 cubic yards scow measurement.

Total expenditure for fiscal year, 1912-13, is $668.67.

COLBORNE.

Colborne, county of Northumberland, is situated on the north shore of lake Ontario, about 14 miles east of Cobourg. Population, 1,000.

On 7th June last, authority was given to expend the sum of $250 in repairs to the wharf by day labour.

Work was carried on from 25th July to 7th August and consisted in replanking the decking where required, renewing timbers in west side, and placing new oak stringers on top of the planking and making all secure.

In doing this work some 3,440 feet b.m. pine, hemlock and cedar; 180 feet b.m. oak, and 176 drift bolts of various sizes were used.

Total expenditure for fiscal year, 1912-13 is $250.

COLCHESTER.

Colchester is a village situated on the north shore of lake Erie, in the county of Essex, about four miles south of Harrow and about fourteen miles from the Detroit river; it also lies about three miles from Oxley, a favorite summer resort. Harrow is the nearest point with railway connection. Population, about 200.

On the 29th October, 1910, a contract was awarded to Messrs. Michael, Patrick and Matthew J. O'Leary, of Ottawa, for an extension, 300 feet long, to the existing landing pier, said extension to be composed of close-faced timber substructure, filled with stone ballast, with superstructure of concrete side walls and stone filling between. The amount of the contract is $14,500.

Work was in progress at the beginning of fiscal year and was completed on the 7th January last. The finished structure presents an excellent appearance. The inner portion of this pier, however, requires attention.

The expenditure during the fiscal year, 1912-13, is $5,581.94.

COLLINGWOOD.

Collingwood, county of Simcoe, is located near the most southerly part of the Georgian bay. It has a number of important manufactures, and large quantities of coal, grain and general merchandise are brought in. The Collingwood Shipbuilding Co. builds and repairs vessels to the value of one and one-quarter millions annually.

On 9th April last, authority was given to expend the sum of $75,000 in harbour improvements, and instructions were issued to prepare contract plans and specifications for same.

*Dredging.*

It was decided to change the original design on account of the dry dock extension, to the westward, and to substitute therefor the enlarging of the turning basin to the west of the Government wharf.

On 13th August last, authority was given to have the departmental dredge *Industry* remove 56,500 cubic yards, place measurement, at Charlton's Mills, but this quantity was reduced to 48,000 cubic yards, place measurement.

Work was commenced 14th October and closed for the season on the 10th December; during this period, the dredge removed 50,433 cubic yards, scow measurement.

The dredging was suspended owing to the lateness of the season.

*West Breakwater.*

On 14th September last, authority was given to expend the sum of $1,500 in repairs to the west breakwater by day labour.

Work was commenced 26th September and completed 23rd November.

The work consisted in renewing the decking and sheathing on the top and front of the cribwork, where it was extremely decayed or altogether gone, and replacing stringers immediately underneath planking. These were merely temporary repairs.

Total expenditure for fiscal year, 1912-13, is $849.04.

COLPOY'S BAY.

Colpoy's Bay, county of Bruce, is situated on the west side of Colpoy's bay, an arm of the Georgian bay, about three miles from Wiarton.

On 30th May last, authority was given to expend the sum of $125 in wharf repairs by day labour.

Work was performed on the 1st November and consisted in renewing the decking, where required.

Total expenditure for fiscal year, 1912-13, is $32.07.

COURTWRIGHT.

*Dredging.*

Verbal instructions were received from the Honourable the Minister, to perform dredging at this point in order to partially provide an entrance channel to the site of a new dock constructed by the Western Construction Co., and with the understanding that the said dock would be available in future for the use of the public as well as the Western Construction Company.

The work done consisted of two cuts 30 feet wide at the base and 18 feet deep below W.L. of June 25, 1912. In all, 9,050 cubic yards, scow measurement, of clay were removed by the Government dredge *Ontario* between August 19 to 27 and December 3 to 7, 1912.

CUMBERLAND.

Cumberland, in Russell county, is a farming settlement located on the south shore of the Ottawa river, sixteen miles below Ottawa, and on the C. N. Ry.

Population, 800.

The high level landing head and wooden approach of wharf was replanked, door was replaced, railing was repaired and painted, freight shed was also painted. The earth approach to the wharf was repaired, 100 cubic yards of broken stone being spread to raise roadway where approach had been scoured by drainage coming down the hillside.

Expenditure to March 31, $385.26.

DAWSON POINT.

Dawson Point is a landing on lake Timiskaming in Nipissing district.

Work on the wharf started February 25, and was completed March 22. The crib-work structure was raised 3 feet to correspond with the new regulated water surface of lake Timiskaming. The improved wharf extends out some 140 feet, 5 feet above R.W.S., elevation 588·5, drawing 19 feet at the landing head, 30 by 20 feet.

Expenditure to March 31, $797.99.

DESERONTO.

Deseronto, county of Hastings, is situated on the bay of Quinte, and has a population of some 2,000. It is an important fishing station. It has several important manufactures.

*Dredging.*

On 30th May last, authority was given to perform certain dredging, for which a contract was awarded on the 15th June last, to Mr. J. E. Russell, of Toronto, at the following rates: Class 'A,' $4.25; 'B,' 26 cents per cubic yard, place measurement.

Work was carried on from the 12th August to 23rd November.

The work done consisted in dredging to 14 feet below low water over an area having a width of 125 feet at the outer end by 40 feet at the inner end of dock, and on a length of 450 feet, also an area 40 feet wide by 95 feet long along the face of the dock.

In doing this work, some 3,045 cubic yards of rock and 6,119 cubic yards class 'B' were removed.

On 6th November last, authority was given to remove 1,000 cubic yards additional of class 'A.' This was duly removed and is included in the amount stated above. Total expenditure for fiscal year, 1912-13, is $13,244.37.

DETROIT RIVER.

The Detroit river is an extremely busy highway of commerce, its annual tonnage far exceeding the combined tonnage of London, Liverpool and the Suez canal.

The wash from the large and numerous steamers has, for some years past, caused serious erosion to the shore line on the easterly side of the river, south of Amherstburg, known as the Malden Front.

At the last session of Parliament, the sum of $2,500 was voted to complete the protection of this shore line, and on April 10, 1912, authority was received to proceed with the work.

Arrangements were made with Captain McQueen, of Amherstburg, to supply and place the stone required along this front for the price of $2.25 per cubic yard. Work was commenced on June 9 and completed on July 18 following, when the grant was expended. In the performance of this work, a total length of approximately 1,116 feet of the shore line was given protection, and 1,070 cubic yards of stone were used.

The total expenditure for the fiscal year 1912-13 is $2,500.20.

DRYDEN.

The town of Dryden is on the main line of the Canadian Pacific railway, where it crosses the Wabigoon river about two miles below Wabigoon lake, and has a population of 850. There were no means available for loading or unloading the products of the forest lands and waters. An appropriation of $1,000 was made to build a wharf and warehouse at the end of Earl street, 60 feet long and 20 feet wide, pile construction, with an approach of earth, riprapped to protect it from washing away. A warehouse, 12 by 16 feet, was erected on the southern end. The work commenced September 1 and was finished October 7.

The expenditure was $967.68.

ECHO BAY.

Echo Bay, District of Algoma, is a small village on the Soo branch of the C. P. Ry., about eighteen miles east of Sault Ste. Marie. The wharf is located on lake George.

*Dredging.*

Shoals are located as follows: On lake George, west side of railway; on Echo bay; at mouth of river in Echo bay, then at the mouth of river in the river; in the river to the foot of Echo lake, and from the foot of Echo lake upwards.

On May 9 last, authority was given to perform this dredging, for which a contract was awarded to Messrs. Ferrier, Kennedy and Robertson (now Lake Superior Dredging Co.), at 22 cents per cubic yard, place measurement.

Work was carried on from May 17 to November 29, when it closed for the season.

The work done, this season, consisted in dredging in Echo bay on shoal east of C. P. Ry. track over an area 450 by 62½ feet, also a channel in Echo bay, 3,700 feet long by 62½ feet wide and continuing same 1,000 feet for a width of 31 feet. All to a depth of 7 feet below low-water level.

During this season, the dredge removed 34,261 cubic yards, scowed away, 19,379 cubic yards overcast and 8,600 cubic yards of material scowed away, which had been overcast last season.

These works are not yet all completed.

Total expenditure for fiscal year, 1912-13, is $11,448.92.

ELK LAKE.

Elk Lake, a town in Nipissing district, is located on the Montreal river, fifty-three miles above Latchford, on the route to Gowganda.

Wharf was raised along landing face 2½ feet, and levelled; 200 feet by 15 feet of new flooring placed; some new stringers put in, and one new pier where span was too long. The warehouse was raised 2 feet in front and partition put up; work done October 7 to November 12.

Expenditure to March 31, $297.76.

FORT WILLIAM.

*Dredging.*

Fort William, a city of 22,000 inhabitants, is situated at the west end of lake Superior, at the mouth of the Kaministiquia river, in the district of Thunder Bay.

It is the principal lake port on the north shore of lake Superior, and the terminal of two transcontinental railways.

Through this port, the terminus of lake navigation, the bulk of the grain grown in the Canadian West passes on its way to the markets of the East.

Dredging was resumed in this harbour for the season of 1912-13 on April 20, when suction dredge *Shuniah* commenced work.

Dredge *Dominion* commenced work May 11; dredge *No. 8* commenced work May 13; dredge *No. 6* commenced work May 13; dredge *No. 5* commenced work May 13; dredge *No. 1* commenced work May 18; dredge *Empire* commenced work May 20; dredge *No. 15* commenced work May 28; dredge *Imperial* commenced work June 1; dredge *Province* commenced work June 20; dredge *No. 7* commenced work September 24.

These dredges have been almost continuously at work during the season and have operated in various portions of the harbour. Dredging stopped for the season on December 7, when weather conditions stopped progress.

Dredge *Shuniah* was withdrawn from the work to go to Port Arthur on September 5, and returned October 21. Dredge *No. 1* was withdrawn from the work to go to Port Arthur, November 9.

The work carried on was as follows:—

The widening of the Mission river on the east side, so that up to date the Mission river is widened to full width from Kaministiquia river down as far as the east end of lot No. 3 in concession B.

On the Kaministiquia river, the work of widening was continued, and on this stream the full width was developed from the Mission river to the shore line of Thunder bay, some two and a quarter miles in length.

Above the Mission river, work on widening was continued as far as the Grand Trunk bridge, so that in this section very little remains now to complete widening.

The only work done in the Grand Trunk Pacific basin was the necessary crib-seat, dredging and back filling.

The work of opening the McKellar river for navigation was actively carried on, and this waterway was enlarged from a stream 93 feet in width and 6 feet in depth to almost full width of 400 feet and 25 feet in depth, and navigation down this stream to new Canadian Pacific Railway Company's coal dock, with available draught of 19·3 feet, was opened November 4, when steamer *Ranney* took 7,000 tons of coal to the new dock.

After public tender, a contract was awarded to the Great Lakes Dredging Company on October 21, for necessary dredging required in connection with developing C. P. R. slip No. 1, at mouth of Kaministiquia river. The amount of excavation involved in developing this slip is 310,000 cubic yards of material.

Work commenced on October 21, and was actively carried on till December 5, when weather conditions stopped work for the season. Sufficient work had been done by November 9 to permit the C. P. R. to land steamers at freight shed No. 8 to unload cement, with a draught of 18 feet.

The sections dredged over are as follows:—

*Opposite C. N. R. Docks.*—A small amount of work done removing overhanging bank, 4,749 cubic yards of material were removed.

*Opposite Western Terminal Elevator.*—Widening was carried on at this location and overhanging banks were removed, a total of 31,906 cubic yards being taken from this section.

*Opposite Consolidated Elevator.*—Widening was carried on at this section, removing the overhanging banks, and during the season 67,371 cubic yards of material were removed.

*Opposite Old Power House.*—The full width of the river was developed at this locality and in dredging for new Imperial Oil Company dock, 18,979 cubic yards of material were excavated.

*Opposite Elevator 'D.'*—Work of widening in this section was carried on, but owing to ice conditions this section could not be finished; 75,896 cubic yards of material were removed.

*Kaministiquia River opposite Lot 10.*—Dredging was carried on in this section and banks removed to harbour line, developing full width of river for this section; 143,448 cubic yards of material were removed.

*Widening Kam River opposite Island No. 2.*—The river was widened to full width at this section, extending from C. P. R. bridge to McKellar river in front of lots 8 and 9; in doing this widening, 531,278 cubic yards of material were removed.

*Kaministiquia River at C. P. R. Bridge.*—Deepening was carried on near abutment of C. P. R. bridge, and in this work 2,384 cubic yards of material were removed.

*International Harvester Dock.*—Full width of channel was developed in front of this location, and in doing this work 19,040 cubic yards of material were removed.

*Kaministiquia River, off McKellar River.*—Work of deepening approach to McKellar river was carried on, and the cutting off of banks in front of lot 7 to harbour line was accomplished, giving full width of river at this section; in doing this work, 118,745 cubic yards of material were removed.

*Widening Kaministiquia River opposite Island No. 1.*—A large amount of widening was accomplished in this section, extending from opposite subway to shore line of Thunder bay, so that full width of river is now available in front of this section; 532,123 cubic yards of material were removed.

*G. T. P. Dock opposite McKellar River.*—Shoal areas in front of this location were removed, and in doing so 7,474 cubic yards of material were excavated.

### *Mission River.*

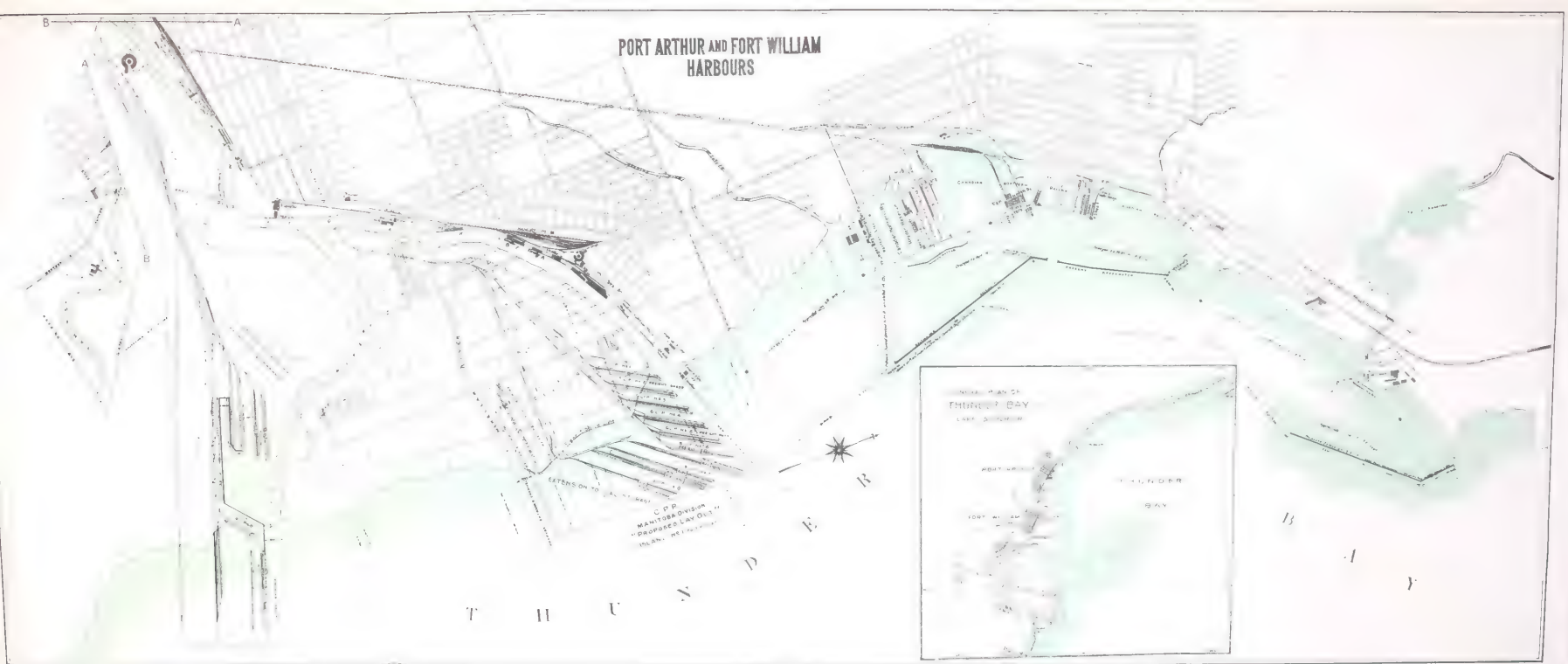
*Grand Trunk Pacific Basin.*—The only work done in this section was the necessary dredging for crib seats. In doing this work, 15,413 cubic yards were removed.

*Fort William Coal Dock.*—Shoal areas were removed at this section and full depth developed to harbour line; 7,566 cubic yards were removed.

*Opposite Fort William Coal Dock.*—A large amount of widening was carried on in this section and the river developed to harbour line; 213,234 cubic yards were removed.

*Opposite Seamen-Kent Dock.*—Widening was carried on and full width of channel was developed; in doing this work, 80,051 cubic yards were excavated.

# PORT ARTHUR AND FORT WILLIAM HARBOURS



*Mission River in front of Lots 8, 7, 6, 5.*—Heavy banks were removed in widening of this section to full width of channel, and in doing so, 602,241 cubic yards of material were excavated.

*Mission Entrance Channel.*—A small amount of work was done in this section, amounting to 44,949 cubic yards, removing shoal areas.

*McKellar River.*

This waterway was developed from a width of 93 feet and a depth of 6 feet to an average width of 370 feet and 25 feet in depth, from Kaministiquia river to concession K road, and with a width of 130 feet and a depth of 23 feet to within 600 feet of shore line of Thunder bay.

Navigation was started in this developed work on November 4. In accomplishing this development there was removed a total of 1,628,581 cubic yards, place measurement.

In accomplishing improvement in the McKellar river, most of the work was done by dipper dredges, and it was shown by the cross-sections of the work that dipper dredge work, as shown by scow returns, amounted to 1,504,346 cubic yards, which, in cross-sections for place measurement, gave 1,271,214 cubic yards, or an expansion factor of 18·3 per cent, the work consisting of a very large amount of clay with small amount of sand and some glacial drift formation.

*C. P. R. Slip No. 1.*—Work of development in this section commenced October 21 and was continued up till December 5, when weather conditions stopped progress for the season. The area covered during operations was 1,300 feet in length by an average width of 142 feet.

*Backfilling.*—Backfilling was carried on in connection with the Mission river wharfs, and in this work, 220,889 cubic yards of material were deposited in cribs.

The amount of material removed by the various dredges is as follows:—

| | Cubic yards. |
|---|---|
| Dredge *Dominion* | 1,289,520 |
| " *No. 15* | 304,106 |
| " *No. 8* | 866,559 |
| " *No. 6* | 639,601 |
| " *No. 5* | 565,635 |
| " *No. 1* | 131,706 |
| Clam shell *Providence* | 53,657 |
| " *Empire* | 76,765 |
| " *Imperial* | 51,899 |
| " *No. 7* | 10,274 |
| Suction dredge *Shuniah* | 478,614 |
| Backfilling | 220,889 |
| Total | 4,689,225 |

A total of 4,689,225 cubic yards, of which 915 cubic yards were rock, removed between April 20 and December 7, made up as follows:—

KAMINISTIQUIA RIVER.

| | Cubic yards. |
|---|---|
| Opposite C. N. R. dock | 4,749 |
| Opposite Western Terminal elevator | 31,906 |
| Opposite Consolidated elevator | 67,371 |
| Opposite power house | 18,979 |
| Opposite elevator D | 75,896 |

| | Cubic yards. |
|---|---|
| Opposite lot 10 | 143,448 |
| Widening river opposite Island No. 2 | 531,278 |
| At C. P. R. bridge | 2,384 |
| International Harvester dock | 19,040 |
| Kam river, off McKellar river | 118,745 |
| Widening river opposite Island No. 1 | 532,123 |
| G. T. R. dock, opposite McKellar river | 7,474 |

MISSION RIVER.

| | Cubic yards. |
|---|---|
| G. T. P. basin | 15,413 |
| Fort William coal dock | 7,566 |
| Opposite coal dock | 213,234 |
| Opposite Seamen—Kent | 80,051 |
| Opposite lots 8, 7, 6, 5 | 602,241 |
| Mission entrance channel | 44,949 |

MCKELLAR RIVER.

| | Cubic yards. |
|---|---|
| Situ, 1,628,581 cubic yards, scow | 1,828,916 |

C. P. R. SLIP NO. 1.

| | Cubic yards. |
|---|---|
| Situ, 119,303 cubic yards, scow and situ | 122,573 |

BACKFILLING.

| | Cubic yards. |
|---|---|
| Mission river wharfs | 220,889 |
| Grand total | 4,689,225 |

*Harbour Works.*

Work was resumed on the Smith and Heney contract on the opening of navigation, and was carried on actively all season, until ice conditions stopped work for the season.

An extension to the Smith and Heney contract was authorized by Order in Council on June 29, and considerable work was done on this extension.

The original Smith and Heney contract was completed, and the final estimate given on November 4.

On the original contract, eight cribs, namely, 3, 42, 43, 44, 45, 46, 47, 48, were sunk in position and concrete blocks and mass concrete were built over the final portion of this work. One hundred and ninety-two (192) concrete blocks, and 991·23 lineal feet of mass concrete being used to complete this contract.

On the extension of this contract, cribs 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 60, were sunk in position. Two more cribs were completed, but owing to ice conditions could not be sunk in position. There remains three cribs to be built to complete this extension, so far as the cribwork portion is concerned, and these will be constructed in early spring.

GODERICH.

Goderich is the county town of the county of Huron, situated on the easterly shore of lake Huron, at the mouth of the Maitland river, about sixty-eight miles from Sarnia, and sixty-three miles from London. It is the terminus of the Buffalo and Goderich branch of the Grand Trunk railway, and of the Guelph and Goderich branch of the Canadian Pacific railway. The West Shore Electric railway also runs into the town. Population, about 6,000. It is a favorite summer resort. It possesses many industries, and is a progressive and thriving town. Located on the harbour front is one of the largest flour mills in Canada, capacity being 1,200 barrels per day. There are two re-enforced concrete elevators here, one with a capacity of 1,000,000 bushels and the other with a capacity of 600,000 bushels, the former being the property of the Goderich Elevator and Transit Company, and the latter being a storage elevator for the Western Canada Flour Mills Company, Limited.

Goderich is a port of entry, and during the past season, three lines of passenger and freight steamers called regularly. The grain traffic is increasing rapidly, and during the season of 1912, 9,745,155 bushels of grain were brought into this port from Fort William and Port Arthur. In addition, a large amount of coal, timber, fish, etc., were handled over the docks.

During the season of 1911, 135 vessels arrived, with a tonnage of 160,866 tons. Customs collected during fiscal year 1911-12, amounted to $85,235.50.

The C. P. Ry., during the past season, built a spur line adjoining the docks, and erected a large freight shed in rear of south entrance pier, to accommodate traffic from upper lake ports.

The maximum draught of vessels that can enter this port is 19 feet at extreme L.W.L.

At the last session of Parliament, the sum of $200,000 was voted towards harbour improvements at this point, and on the 11th April, 1912, authority was received to expend the vote.

Work on repairs to piers was commenced on 24th April and completed on 24th October, 1912, and consisted principally of the stripping, to water level, of 200 feet of river breakwater, which required renewal; together with other minor repairs to both north and south entrance piers.

In the execution of the above work, approximately 7 cords of stone, 8,422 feet b.m. of lumber, 1,025 pounds of iron, and 17 bags of cement were used.

The completion of this work left the entrance piers in good condition.

*Southeast Breakwater.*

On the 28th March, 1911, an Order in Council was passed authorizing the transfer to Mr. Wm. Bermingham, of Chatham, Ontario, of the contract previously awarded to Mr. Michael Connelly, of Montreal, for the construction of 600 feet of breakwater for protection to the southeast entrance to harbour; contract price, $140,417.

The design of the substructure of this work is somewhat novel in character, being composed of re-enforced concrete caissons which are much greater in size and somewhat different in design to any other work of this character constructed in Canada or the United States.

Work was in progress at the beginning of the fiscal year, and the breakwater is now almost entirely completed.

One feature brought out in the construction of this work was the decided decrease of risk in the placing and filling of caissons forming the substructure, two such caissons being sunk within ten hours on one day and filled with water by the use only of one 6-inch centrifugal pump.

The work as it stands shows a decided advantage over the method so largely used of constructing the substructure of timber cribs with stone filling.

*Northwest Breakwater.*

On May 17, 1912, a contract was awarded to Mr. Wm. Bermingham, of Chatham, Ontario, for the construction of 1,000-foot extension to inner end of existing northwest breakwater, for the sum of $265,000. On July 5 following, an Order in Council was passed granting the contractor permission to substitute re-enforced concrete caissons for substructure of work, in place of timber cribs called for in contract. On October 11 last, a revised plan and specification, covering these changes, were submitted for approval. Said approval was granted on October 15, 1912, and the contractor advised.

The greater portion of the material required for this work has been secured, while two caissons have been constructed in the inner harbour.

The work closed down for the winter on November 22, and was in progress on March 31, 1913.

*Wharf.*

On January 15, 1912, an Order in Council was passed authorizing the transfer of a contract for the construction of a wharf from S. P. Whitman, of Toronto, to Mr. J. H. Tromanhauser, of Toronto, the contract price being $35,427.90.

The character of the work is close-faced timber cribwork, filled with stone ballast, for substructure, and superstructure of heavy mass concrete face wall, with gravel filling in rear of concrete decking.

Operations were commenced about March 7 last, and the work is now nearly completed.

On September 20 last an Order in Council was passed granting authority for an extension to this wharf at an additional expenditure of $7,700, and on the condition that the contractor provided a written agreement to accept the pro rata rate of his present contract for the additional work, also to await payment for said work until money is voted during the present session of parliament. The contractor provided the required agreement and the work was proceeded with, and is still in progress.

On November 30 last, the cribs for substructure were sunk and filled, while the necessary filling in rear of cribs was also completed.

That portion of dock constructed to date has already proved of great benefit to shipping.

*North Breakwater.*

On October 29 last, an Order in Council was passed awarding a contract to Mr. Wm. Bermingham, of Chatham, Ontario, for the renewal of the superstructure of 200 feet of the breakwater protecting the northerly side of the harbour, for a sum of $26,000.

On November 6, 1912, authority was received to proceed with the work, and operations were commenced on the 23rd instant, and work was finished on March 8.

The completion of this work left the breakwater in fit condition to withstand spring freshet, and thus avoided considerable damage, which would have otherwise occurred.

Slight erosion has taken place on two locations along outer face of this breakwater, but it is expected that this damage will be overcome by depositing rock, that will be excavated during the coming season in inner harbour, on sites where erosion has occurred.

Further enlargement and deepening of inner basin of this harbour, together with the widening of entrance channel, is urgently required to accommodate the increasing traffic at this port.

Total expenditure during the fiscal year, 1912-13, is $211,909.44.

*Dredging.*

During the past season, a total of 36,913½ cubic yards, scow measurement, of clay, silt and sand was removed from the channel at the outer entrance to harbour and from the turning basin in the inner harbour. In addition, 6,543 cubic yards, place measurement, of solid rock was removed from the inner harbour adjacent to the town dock.

The object of this work was:

1. To remove the shoal which had formed at the outer entrance to piers, to a depth of 22 feet below L.W.L.

2. To provide more space for the turning basin in the inner harbour with a depth of 19 feet below L.W.L.

3. To provide a sufficient depth of 21 feet below L.W.L. above rock bottom, for deep draught vessels in the harbour alongside of the elevator and town dock.

The respective widths of the improved channels on the completion of the above works were approximately 150 feet in outer entrance to channel and 100 feet between piers, while in the inner harbour a turning basin, approximately 600 by 900 feet, was provided.

The work in the entrance channel to harbour was performed by the Marlton Dredging Co., with their dredge *Arnoldi,* between April 29 and June 10, 1912. In this location 16,030 cubic yards, scow measurement, of sand were removed.

The work in the inner harbour was done by the Marlton Dredging Co., of Goderich, with dredge *No. 2,* between August 3 and December 7, 1912, under the terms of the contract transferred to them on July 15, 1912, by the Sault Dredging and Towing Co., which company had by Order in Council, dated May 2, 1912, been awarded a contract for dredging which does not expire until December 15 of this year.

The cost of this work was as follows:—

| | |
|---|---|
| (*A*) Outer entrance, 16,030 cubic yards, scow measurement, at 30 cents | $ 4,809 00 |
| (*B*) Inner harbour, 20,883½ cubic yards, sand and gravel, at 25 cents per cubic yard | 5,220 88 |
| 6,543 cubic yards, place, rock at $2.50 | 16,357 50 |
| Total | $26,387 38 |
| Inspection | 558 00 |
| Grand total | $26,945 38 |

GOWAS.

Gowas, district of Algoma, is a small channel between St. Joseph's and Campment d'Ours islands.

On 25th October last, authority was given to expend the sum of $1,000 in the removal of obtructions from the channel by day labour.

Work was commenced 4th January, and completed 28th March.

The work consisted in the removal of solid rock, loose stone and boulders to provide a channel 25 feet in width and about 125 feet in length to a depth of 6 feet below present water level.

Total expenditure for fiscal year, 1912-13, is $959.19.

GRAND BEND.

Grand Bend is a village situated on the easterly shore of lake Huron, at the mouth of the Sauble river, about thirteen miles from Parkhill, the latter place being the nearest railway station. It is also fifteen miles from Exeter, and about thirty

miles south of Goderich. It is a favourite summer resort. Population, about 300. Surrounding district is rich, agriculturally, also a large number of horses and cattle are raised.

At the last session of Parliament, the sum of $5,000 was voted for the construction of a guard pier and other improvements. On the 10th April last, authority was received to proceed with the work.

Operations were commenced on 16th May, and work was completed on the 30th November. The work performed consisted of the construction of 300 feet of sheet-pile revetment wall on northerly side of harbour and extending inwards from the inner end of existing landing pier; southerly face of landing pier was levelled up for a length of 175 feet and a portion of decking for this length of pier relaid; on south side of entrance to river, protection work, 275 feet long, was constructed, the outer 75 feet of which consisted of a guard pier 10 feet wide, and the inner 200 feet of 4-inch sheet piling tied back securely to anchor piles in rear.

In the execution of this work approximately 42,218 feet b.m. of beech, oak and hemlock timber, 8,214 pounds of iron, and 27 cords of stone were used.

The performance of this work has already proved of considerable benefit, there now being an open channel into the river, whereas in former years the entrance was always more or less blocked with a bar which formed across the mouth of the river.

The total expenditure for the fiscal year, 1912-13, is $5,001.31.

GRAVENHURST.

Gravenhurst, district of Muskoka, is situated at the south end of lake Muskoka, and is the terminal for the boats of the Muskoka Lakes Navigation Co., and the chief centre of tourist traffic in the district. Important industries are located at this place, such as tanneries and lumber mills.

On 9th April last, authority was given to expend the sum of $9,000 towards the completion of the wharf for which a contract had been awarded on the 16th February, 1911, to Mr. D. G. Stewart, of Ottawa, for the sum of $12,984.

Work was resumed on the 25th January and completed 27th July.

The work consisted in the construction of a wharf having cribwork substructure and concrete superstructure, with a length of 220 feet, of which 60 feet is 26 feet wide and 160 feet is 16 feet wide, composed of 4 cribs 20 by 16 feet and one crib at outer end 60 by 26 feet, with 20 feet spaces between the cribs, all connected to the shore by a stone approach, 110 feet long by 16 feet wide.

On 13th March last, authority was given to have a small boat landing provided at a cost of $250, and on 9th September last, authority was given to place 40 cubic yards of cribwork at $7.25, and 351 cubic yards stone filling at $1.25, amounting to $536.25.

A lighting plant was provided and installed on the wharf at a cost of $262.06, as authorized on 9th January last.

Total expenditure for fiscal year, 1912-13, is $7,662.25.

HAILEYBURY.

Haileybury, a town in Nipissing district, with a poulation of 3,800, is located on the west shore of lake Timiskaming, and on the main line of the T. & N. O. Ry. The traffic over the wharf during season 1912 shows freight shipped, 1,761 tons, and freight received, 2,942 tons.

Minor improvements were made to dock (description of dock in report 1910-11). The heavy continuous traffic made it impossible to undertake, during the navigation season, the proposed re-enforced concrete work to raise and widen the inner approach. Immediately lake Timiskaming water surface reached minimum stage, in September, work of facing with concrete, the stone approach breakwater on the north side was

started. The rapid rise of the water and stormy weather, however, limited said work to the upper half, averaging say 8 feet on a length of some 300 feet. Cement, stone and sand aggregates were procured for the continuation of this work in the early spring.

The approach was also extended 24 feet wide, on an easy grade from shore end to tracks of Nipissing Central Railway spur. Towards the end of March, 29 channel iron fenders were placed at distances of generally 24 feet around the landing head; cement and other materials procured for proposed continuation of concrete work, and the experimental pile cluster, driven in 1911, having served its purpose, was removed, while the round timber ice waling was extended around the landing head.

Expenditure to March 31, $6,890.09.

*Dredging.*

The departmental dredge *Queen* worked at Haileybury, on lake Timiskaming (July 29 to September 4), cleaning out basin at south end and behind dock for a width of 75 feet, to elevation 570, and making a double cut 50 feet wide for 125 feet, to elevation 570, parallel to approach. The work was performed anticipating delay in lake Timiskaming regulation; also to permit the smaller steamboats to float on an even keel during the winter, when the Timiskaming storage basin is lowered.

Some 8,177 cubic yards of sand and clay, scow measure, (7,611 yards, place measure), from examination in January, 1913, were removed to a least depth of 8 feet, and spoiled in deep water, half a mile from dock.

*Shipyard.*

The Haileybury shipyard, located two miles north of Haileybury harbour on lake Timiskaming, has been developed in the past three years. The dredging plant and construction plant on these waters are now hauled out on two sets of shipways, and overhauled yearly. Plant from other parts of this district is also stored and repaired here. A public highway, electric car service and T. & N. O. Ry. spur afford easy access to this property. A service dock of pile-work, 25 by 100 feet, and trestling for double car gravity system is now in use for transferring coal to storage bins. The latter hold two carloads and but little shovelling is required to load coal on scows through steel chutes.

A sum of $3,993.43 was used during the past season for the above improvements, the construction of shipways and maintenance of construction plant generally.

*Dredging.*

The departmental dredge *Queen* worked at the Haileybury shipyard, lake Timiskaming (May 20 to June 12, and September 16 to November 15), making a cut 525 feet long by 30 feet wide, leading up to basin in front of shipways and service dock, and dredging basin to provide berth for wintering boats, when lake Timiskaming storage basin is low, and improving approach to shipways used by departmental plant and other boats.

A total of 8,935 cubic yards of clay and sand, scow measure (8,446 yards in place), from examination in January, 1913, were removed to an average depth of 8 feet and spoiled in deep water, quarter of a mile from shipyard.

HAMILTON.

Hamilton, county of Wentworth, is situated on the southwest shore of Burlington bay, at the westerly extremity of lake Ontario. It has many important manufactures, and is distant thirty-nine miles from Toronto. Population, 80,000.

On April 9 last, authority was given to expend the sum of $54,000 for the completion of the construction of the wharf and retaining wall under contract with Mr. Jos. Battle, dated May 18, 1911, for the sum of $60,844.

On May 18, 1911, authority was given to increase the width of the slip from 70 feet to 120 feet for $2,500, and on June 18 last, authority was given to construct a small crib at a cost of $350 to act as re-enforcement for the piling, and on June 29 last, authority was given to provide iron castings as shoes for piling at a cost of $174.

Work was resumed May 29 and completed November 20.

The work consisted in the construction of a wharf having cribwork substructure, placed on a stone foundation, and having a concrete superstructure, for a length of 252 feet and a width of 50 feet, and a retaining wall 179 feet 10 inches, and another section of retaining wall 120 feet long composed of steel and wooden piling substructure, with concrete superstructure 8 feet wide at the bottom and 6 feet wide on top, and filled in at the rear with gravel and stone for a distance of 50 feet back from the face.

On April 9 last, authority was given to expend the sum of $200,000 in harbour improvements, and instructions were issued to prepare contract, plans and specifications for same.

These were duly prepared and forwarded to Ottawa and tenders called and the contract has been awarded to Messrs. Taylor, Poupore, Hennessy and Dwyer for, approximately, $178,066.79.

This work will consist in the construction of a wharf or retaining wall 1,566 feet long by 10 feet wide on top, having pile-work substructure and concrete superstructure.

On February 28 last, contract, plans and specifications were duly prepared and forwarded for the construction of the proposed wharf at Wentworth street, but, up to date, this contract has not been awarded.

*Dredging.*

On April 19 last, authority was given to have the departmental dredges *Nos. 105* and *117* remove 300,000 cubic yards from in front of the Oliver Plow Works, and 16,000 cubic yards from the entrance to the Desjardins canal in Burlington bay, and on September 28 last, authority was given for the removal of 8,000 cubic yards from the Steel Co., of Canada; also on September 15 and 28, the use of dredges was permitted to Contractor Battle, in connection with his work, at $105 per day for dredge *No. 105* for a 10-hour day, and *No. 117* at $250 per day of 10 hours. Dredge No. *105* worked at the entrance to the Desjardins canal, and removed 7,140 cubic yards, which was all that was necessary as the spring freshet had carried away the greater part of the bar; at the Oliver Plow Works, removing 39,389 cubic yards, and at the Mutual Lines, removing 1,997 cubic yards; also at city dock for Jos. Battle, 13 days, 2½ hours.

*No. 117* worked at the Oliver Plow Works continually from May till December 14, with the exception of six days in May, when she was employed by Contractor Battle. This dredge removed some 250,758 cubic yards at the Oliver Plow Works.

Total expenditure for fiscal year, 1912-13, is $48,127.59.

HONEY HARBOUR.

Honey Harbour, county of Simcoe, is a very popular summer resort, distant about ten miles from Midland.

*Dredging.*

On 13th June last, authority was given to have the Canadian Dredge and Construction Co. perform certain dredging for the improvement of the steamer channel between Penetanguishene and Parry Sound, at the following rates per cubic yard, place measurement:—Class 'A,' $6; 'B,' 32 cents.

Work was commenced 9th October and completed 26th November.

On 13th November last, authority was given to have the Penetanguishene Dredging Co. remove 1,360 cubic yards from the channel near the residence of Mr. Thos. Duff, at 25 cents per cubic yard, scow measurement.

This work was carried on from the 19th to 26th November, when, owing to the lateness of the season, the dredge stopped work, having removed only 935 cubic yards.

The work in the main channel consists in the removal of a number of shoal spots to provide a channel having a depth of 10 feet below zero of gauge.

The work in the Duff channel was to provide a depth of 7 feet below zero of gauge.

Some 7,717 cubic yards class 'B,' and 360 cubic yards, place measurement, of class 'A', were removed from the main channel.

Total expenditure for fiscal year, 1912-13, is $4,910.69.

### HUNTSVILLE.

Huntsville, district of Parry Sound, is situated on the Northern Division of the G. T. Ry., 145 miles north of Toronto. Population, 2,105.

On 22nd March last, authority was given to expend $75 for the removal of debris work from the rear of the wharf by day labour, but this work was not proceeded with, as the town asked that this area be filled in.

On 9th April last, authority was given to expend the sum of $1,750 for wharf improvements by day labour, and on 27th July last, authority was given to provide a small boat landing and fill in the space behind the wharf to form park land.

Work was carried on from the 1st October to 10th February.

The work consisted in providing a small boat landing and filling in at the rear of the wharf.

In doing this work some 9,342 feet b.m. pine; 563 feet b.m. hemlock; 1,500 feet b.m. tamarac; tamarac piles, 296 lineal feet; 556 pounds of iron, and 74 cords of stone were used.

Total expenditure for fiscal year, 1912-13, is $1,323.79.

### KEMPENFELDT BAY.

Kempenfeldt Bay, county of Simcoe, is a summer resort on lake Simcoe about six and a half miles east of Barrie.

On 9th April last, authority was given for the expenditure of $5,000 for the construction of a wharf, and instructions were issued to prepare contract, plans and specifications.

These were duly prepared and the contract work was awarded to Mr. J. O. Roddick, of Toronto, for the sum of $9,783.13.

Work was commenced 26th December and was practically completed on the 19th March.

The work consisted in the construction of a cribwork wharf 50 by 20 feet, with an 'L' at the outer end, 20 by 50 feet, connected to the shore with a stone approach 220 feet long by 20 feet wide. The work yet to be done consists in levelling up the approach.

Total expenditure for fiscal year, 1912-13, is $8,781.13.

### KENORA.

Kenora is situated at the northern end of the Lake of the Woods, with a population of 7,000, and is the centre of a large lumber and mining district, as well as the distributing point for freight from the Canadian Pacific railway. As Kenora is a summer resort, and there are a large number of islands close by in the Lake of the Woods, occupied by summer visitors, boats are necessarily the only means of getting about, and there are fully 200 motor boats in use at present, with very little wharf accommodation.

On April 29, 1912, instructions were given to build a wharf; work was commenced June 18, and practically finished September 1, but owing to the undelivery of the sheet piling, it was not possible to complete until October 26.

The wharf is of pile construction, with a total length of 399 feet 3 inches and is 16 feet wide, having an approach of 35 feet of earth and rock. From the end of the approach, for 73 feet 3 inches, the wharf is built on a grade, with pile bents ten feet apart centre to centre, with 3 piles to a bent. From the end of the incline, for a distance of 291 feet, the bents are driven 5 feet 3 inches, centre to centre, and as the water was from 18 to 22 feet deep, it was necessary to drive brace piles every alternate bent. The wharf was sheet-piled to make a protection for motor boats.

The expenditure for the fiscal year was $9,731.44.

KINCARDINE.

Kincardine is a prosperous town situated on the east shore of lake Huron, in the county of Bruce, thirty-nine miles south of Southampton, and thirty-two miles north of Goderich. It is the terminus of the Wellington, Grey and Bruce Division of the Grand Trunk railway. Population, about 3,000. Principal industries of the town are: two furniture factories, salt works, boiler machine works and bridge works. It is surrounded by a prosperous farming country. Considerable stock is raised, and a large amount of cheese and butter is marketed. It is the principal summer resort on the east shore of lake Huron; it is a harbour of refuge for vessels not drawing over 14 feet, and possesses facilities for both imports and exports, either by water or rail. Principal imports are coal, wood, lumber, fence posts, ties and fish. Principal exports are salt, furniture, iron bridges, boilers, &c. It is a port of entry and a regular port of call for a line of package freight steamers running between lake Huron ports and Sault Ste. Marie. Two steam tugs and one launch are engaged in fishing at this point. Some 66 vessels arrived at this port during season of 1911, with a tonnage of 10,320 tons, while the customs duties collected amounted to $6,049.59.

At the last session of Parliament, the sum of $1,000 was voted for repairs to piers, and on the 10th April, 1912, authority was received to proceed with the work.

Owing to the difficulty in securing labour and material, actual work was not started until the 21st November, 1912, and was completed in March, 1913.

The work consisted of the renewal of a portion of the decking and face timbers; the repairing of approximately 700 lineal feet of inner end of north pier, and the construction of a slip on easterly side of inner basin.

While the performance of this work sufficed for the time being, the condition of 750 feet of the inner end of north pier is such that it will require to be renewed at an early date, in order to provide safe landing, also, an additional 280 feet of this pier, towards its outer end, requires attention, owing to settlement.

The total expenditure for the fiscal year, 1912-13, is $5,999.10.

*Dredging.*

The dredging during the past season consisted in the removal of 14,111½ cubic yards, scow measurement, of silt, sand, quicksand and gravel, from the entrance to channel, between piers, and from the turning basin.

The object of the work was to remove the sand, silt, etc., which is annually brought down by the river; also to remove the sand bar at outer entrance to channel which is also of annual occurrence.

The dimensions of completed work were as follows: Outer entrance to channel, 450 feet long, 90 wide and 16 feet below L.W.L.; channel between piers, 725 feet long, 50 wide and 15 feet below L.W.L.; turning basin, 350 feet long, 275 wide and 11·2 feet below L.W.L.

The work was done by The Ontario Dredging and Drainage Co. with the dredge *Jack Canuck*, between June 20 and July 13, 1912.

The cost of this work was as follows:—

| | |
|---|---|
| 14,111½ cubic yards, scow measurement of sand, silt, etc., at 35 cents | $4,939 03 |
| Inspection | 63 00 |
| Total | $5,002 03 |

KINGSVILLE.

Kingsville is a thriving town, situated on the north shore of lake Erie, in the county of Essex, about twenty-five miles east of the mouth of the Detroit river, and on the line of the Père Marquette railway. An electric railway line also runs through this place, between Windsor and Leamington. It is a port of entry and a harbour of refuge. It is the centre of a very rich farming district, and is the principal point from which the steamers, carrying freight and passengers, run regularly to Pelee island, Sandusky and Windsor. A large fishing trade is carried on at this point. The main traffic over the docks is lumber, fence posts, farm produce, including livestock, and general building materials. The traffic over docks is steadily increasing. Maximum draught that vessels can draw entering this port is 14 feet at low stage of water. During the season of 1911, some 251 vessels, with a tonnage of 49,882 tons, arrived at this port, and customs duties collected during that season amounted to $4,992.58.

On the 6th June, 1912, authority was received to expend the sum of $275 on urgent repairs to piers, and this amount was supplemented by an additional $200 on the 19th November following.

The work performed consisted of the renewal of a portion of the decking on outer end of east pier, the tying back of 70 feet of inner face of this pier, and renewing a portion of the decking at inner end of pier. In addition, a few face timbers and oak waling were renewed on the outer end of west pier. The completion of this work left these piers in excellent condition.

In the execution of this work, 80 feet b.m. of oak, 29,620 feet b.m. of pine and 635 pounds of iron were used.

The total expenditure for the fiscal year, 1912-13, is $12,285.80.

*Dredging.*

During the past season, a total of 31,718½ cubic yards, scow measurement, of sand, silt, clay and boulders were removed in dredging the outer entrance to channel between piers to a depth of 17·5 feet below L.W.L.; and 27,552½ cubic yards, scow measurement, were removed in providing a depth of 16 feet below L.W.L. between the piers.

The object of this work was to remove a shoal which had formed at the outer entrance to the channel, and to widen, deepen and lengthen the channel between piers.

The dimensions of the completed works were as follows: Outer entrance to channel, 300 feet long, 275 feet wide and 17·5 feet below L.W.L. channel between piers, from a point opposite the outer end of east pier, 180 feet wide, 16 feet below L.W.L., and for a length of 650 feet adjacent to the east pier, the channel was approximately 200 feet wide and 16 feet deep.

The work was done by Mr. W. E. Hardison, of Welland, Ont., with the dredge *Old Glory*. Operations were commenced on July 12 and work was stopped on September 14 by the Customs Department on account of the fact that it was then discovered that the dredge on this work had not passed boiler inspection.

The cost of this work was as follows:

| | |
|---|---|
| Inner harbour, 31,718½ cubic yards, scow measurement, of sand and clay at 15 cents | $ 4,757 77 |
| 27,552½ cubic yards, scow measurement, of clay and boulders at 25 cents | 6,888 13 |
| Total | $11,645 90 |
| Inspection | 214 90 |
| Grand total | $11,845 80 |

LAKE NIPISSING, MONETVILLE.

Monetville, a farming district in Nipissing district, is the terminus of navigation on the west arm of lake Nipissing.

The Monetville rock cuts, to extend lake Nipissing navigation four miles through Shanty lake to Monetville, on which operations were discontinued in June, 1911, owing to lack of funds, were improved September 13 to December 5.

Cut 2 has been excavated for its entire length over the middle 12 feet width, to grade elevation 635. The remaining 6½ feet width on each side slopes upward to elevation 637, making 8 feet of water in the middle at proposed R.W.S. 643, and 6 feet on the sides. In addition to the drilling estimated, a considerable amount was done to break and loosen large pieces of rock. As this was very irregular, it was not found expedient to keep an accurate record. In March, a quantity of 10 by 10 hewn white pine, 20 to 30 feet long, was purchased for proposed glance booms.

Expenditure to March 31, $1,702.82.

LA PASSE.

La Passe, South Renfrew county, is located on the Ottawa river, some seventy miles west of Ottawa.

The building of a landing pier for the ferry boat between La Passe, Ont., and Fort Coulonge, Que., was started only in March, on account of the difficulty in procuring materials and labourers. Work progressed fairly well when started (March 7-31) but owing to bad weather and scarcity of men, only 50 per cent of work was completed, at a cost of $891.13. Arrangements were made to procure balance of materials required so as to complete the wharf early in the season, if possible. The structure consists of a pier 40 by 40 feet, and extends out 119 feet in the Ottawa river, built to elevation 10 feet above O.L.W.L., and when completed is to have three landing stages and two approaches.

Expenditure to March 31, $1,256.07.

LEAMINGTON.

Leamington is a prosperous town, situated on the north shore of lake Erie, in the county of Essex, about thirty-seven miles from the city of Windsor, on the lines of the Pere Marquette and Michigan Central railways. Population, about 3,000. It is the centre of a rich fruit and vegetable raising district. A number of oil wells are being worked in the vicinity of Leamington. It is a port of entry and a port of call for a steamboat line running between Windsor and Pelee island. Deep draught tugs also carry considerable freight from this point to Pelee island and other adjoining places. Maximum draught of vessels utilizing pier at this point is about 11 feet. The principal manufacturies are a basket factory, planing-mill, pickle factory, tobacco factory, cement works and canning factory. During the season of 1911, 162 vessels arrived at this port, with a tonnage of 42,854 tons, and the custom duties collected amounted to $30,107.29.

At the last session of Parliament, the sum of $1,000 was voted for repairs to piers, and on April 10 last, authority was received to proceed with the work.

Operations were commenced on April 22 and completed on August 17 last.

The work done consisted of the renewal of ten pile bents at inner end of landing pier, together with the capping of same; relaying of stringers, decking, etc. In addition, general repairs were made to decking on remainder of pier, as also to foundation of warehouse.

In the execution of the above work, approximately 9,060 feet b.m. of white pine, 100 pounds of iron, and 1,076 lineal feet of piling were used.

The total expenditure for the fiscal year, 1912-13, is $1,009.90.

### LION'S HEAD.

Lion's Head, county of Bruce, is a village of some 600 inhabitants, situated on the west shore of the Georgian bay, twenty-two miles north of Wiarton. There is a very large saw-mill in operation and the output is very large. It is also a harbour of refuge.

On April 9 last, authority was given to expend the sum of $6,000 towards the construction of an extension to the wharf, and instructions were issued to prepare contract, plans and specifications for same.

These were duly prepared and the contract was awarded to Messrs. Johnston and Crawford, of Wiarton, for the sum of $6,200.

Work was commenced September 1 and completed December 5.

The work consisted in the construction of cribwork, 100 by 25 feet, placed on stone foundation and having stone talus built around the exposed side.

On November 2 last, authority was given to expend the sum of $200 for the protection of the shore where it intersects the approach to the Government wharf.

This work was performed in December last, and consisted in placing 100 cubic yards large stone for the protection of the shore and structures.

Total expenditure for fiscal year, 1912-13, is $6,749.80.

### L'ORIGNAL.

L'Orignal, a village in Prescott county, with population of 1,300, is located on the south shore of the Ottawa., fifty-four miles below Ottawa, and on the C. N. Ry.

The whole of the wooden handrailing, 1,246 lineal feet, and sidewalk, 623 feet, have been renewed on the stone approach leading to wharf. On the high level landing, 169 feet of flooring has been replanked. The freight shed door was provided with new track and rollers.

Work was done from May 17 to June 3.

Expenditure to March 31, $499.50.

### MAGANATAWAN RIVER.

Maganatawan river, in the district of Parry Sound, flows through the district and empties into the Georgian bay at Byng inlet.

On 9th April last, authority was given to expend the sum of $2,500 in the removal of obstructions between Burk's Falls and Ahmic harbour, by day labour.

Work was commenced 2nd December and completed, as far as possible, on the 22nd February last, and consisted in the removal of the overhanging trees, etc., on both sides of the river for a distance of four miles, and the rigging up of a derrick scow for the removal of the shoals in the river, to be in readiness when work should be resumed.

Total expenditure for fiscal year, 1912-13, is $915.74.

MEAFORD.

Meaford, county of Grey, is an incorporated town, situated on the west side of the Georgian bay, twenty-one miles west of Collingwood, and twenty miles east of Owen Sound. It is the terminus of the Northern Division of the G. T. Ry. and has a population of 2,500. There is a large grain elevator at this place, with a capacity of 750,000 bushels, also a number of factories and mills.

On 9th April last, authority was given to expend the sum of $34,000 in harbour improvements, for which a contract was awarded, on the 3rd April, 1912, to Mr. G. Kastner, of Wiarton, for the sum of $36,700.

Work was commenced 4th July and carried on till 22nd November, when, owing to rough weather, it had to be suspended for the season.

The work done this season, consisted in the construction of and placing in position of all the cribwork substructure, and the placing of the concrete superstructure on two cribs of same and on all but 30 feet of the third crib. No concrete has been placed on the fourth crib.

*Dredging.*

On 7th January last, authority was given to expend the sum of $3,000 in placing large stone riprap along the slope at the foot of a public street for the protection of same where the piling was damaged by the spring freshet.

This work was commenced 16th January and completed on the 14th March.

In doing this work some 549¾ toises of stone were used. This work is only in the nature of temporary protection.

On 19th April last, authority was given to have the departmental dredge *Industry* remove some 91,000 cubic yards, place measurement, at this place.

Work was commenced 6th May and completed 8th July, and during this period the dredge removed some 98,648 cubic yards of sand, mud and debris, which had been washed down into the harbour by the spring freshets, which were unusually severe this spring.

On 21st October last, authority was given to have the Canadian Dredge and Construction Co. remove 3,000 cubic yards, scow measurement, at 32 cents per cubic yard.

Total expenditure for fiscal year, 1912-13, is $31,325.63.

MIDLAND.

Midland (and Tiffin), county of Simcoe, is a town of some 5,000 inhabitants, situated on an arm of the Georgian bay. It is the terminus of the Midland division of the G. T. Ry. Large quantities of lumber are shipped from this place, also there is a large smelter in operation.

Including Tiffin, there are three large grain elevators located here, having a total capacity of four million bushels; of this, the G. T. Ry. elevator has two million, and the other two, one million each.

On April 9 last, authority was given to expend the sum of $1,750 in repairs to the wharf by day labour.

Work was commenced June 17 and completed July 7, and consisted in the renewal of the decking of the Government wharf at the foot of King street, and the placing of new walings and deck stringers, where necessary, on the west end of the pier for a length of 250 feet, also using the good portion of the timber planking removed from this portion to repair some 200 feet at the east end.

In doing this work, some 36,955 feet b.m. pine, and 1,300 pounds of iron were used.

*Dredging.*

On May 2 last, authority was given to perform certain dredging at the Grand Trunk elevator, for which a contract had been awarded to the Canadian Dredge and Construction Co., at 15 cents per cubic yard, scow measurement.

Work was carried on from May 1 to 10, and on September 24.

In doing this work, some 15,967 cubic yards were removed, scow measurement.

This work consisted in removing the material lying immediately in front of the Esplanade, when same was straightened.

On October 5 last, authority was given to remove 400 cubic yards, scow measure, from in front of the marine leg of the Aberdeen elevator. This work was duly performed on November 12 by the removal of 360 cubic yards, scow measure.

On May 8 last, authority was given to resume dredging at Tiffin, the contract for which, with the Canadian Dredge and Construction Co., having been extended at the following rates per cubic yard, scow measure: rock, $2.25, O. M., 29 cents.

This work was resumed June 7, and closed for the season, December 6.

The work consisted in dredging in the slip in front of the G. T. P. elevator, and in doing this work some 53,568 cubic yards of rock and 16,250 cubic yards of clay, sand and gravel and boulders were removed. This work was done to a depth of 25 feet below zero of gauge.

On May 8 last, authority was given to perform certain dredging at the Canada Iron Corporation, for which a contract had been awarded to the Canadian Dredge and Construction Co., at 8 cents per cubic yard, scow measurement.

Work was carried on from June 1 to July 4, and in doing this work some 45,445 cubic yards, class B, and 8 cubic yards class A, were removed.

This work provided a depth of 25 feet below zero of gauge in the approaches and at the wharf of the Canada Iron Corporation.

Total expenditure for fiscal year, 1912-13, is $133,484.59.

### MONTREAL RIVER, FLAT RAPIDS.

Flat rapids, in Nipissing district, is located on the Montreal river, thirty-eight miles above Latchford, and fifteen miles below Elk Lake.

At its last session, Parliament granted $3,500 towards continuation of the removal of boulders at Flat rapids, for the improvement of navigation above Latchford.

Improvements to the Montreal river channel at Flat rapids were carried on August 12 to November 12. A boat channel, 30 feet wide, some 200 feet long, was deepened to 5 and 6 feet, and a training pier was built to concentrate low-water flow and further improve channel by scourging. After removing boulders with stumping machine and chain sacks, the clay bottom was blasted and scraped, taking advantage of the wash from a temporary head gate dam. The head of the rapids was reduced from 2½ feet to about 9 inches. Several shoals above were blasted and buoyed.

On November 1, the plant was moved down the river to Pork rapids. In view of proposed R.W.S., in 1913, excavation above present water surface was carried on at a small obstructing island. Up to November 12, when work was closed down, all brush was cleared and all loose rocks and boulders were blasted and removed to depth of one foot for channel 50 feet wide, 175 feet long.

Expenditure to March 31, $3,459.77.

### NAPANEE.

Napanee, county of Lennox and Addington, is situated on the Napanee river, some six miles from where it empties into the Bay of Quinté. A number of manufactures are located at this place. Population, 3,200.

On 30th May last, authority was given to remove 135,000 cubic yards, place measurement, of Class 'B,' for which a contract had been awarded to Mr. W. E. Phin, at 15 cents per cubic yard, place measurement.

Work was commenced 20th June and closed for the season 28th November.

The work done consists in dredging a cut 75 feet wide and 7,776 feet long to a depth of 11 feet below zero of gauge, and in doing this work some 77,961 cubic yards, place measurement, have been removed.

This work is to provide a channel from the mouth of the river to the town of Napanee.

Total expenditure for fiscal year, 1912-13, is $15,316.05.

NEWCASTLE.

Newcastle, county of Durham, is situated on the north shore of lake Ontario, forty-seven miles east of Toronto. It contains large woollen mills, a tannery and implement factory. Population, 1,500.

*Dredging.*

On 8th May last, authority was given to have the departmental dredge *Sir Richard* remove 19,700 cubic yards at this place.

Work was carried on from the 27th May to 17th July, during which time the dredge removed some 22,690 cubic yards, scow measurement.

The work consisted in dredging between the piers and in the approaches thereto to a depth of 14 feet below zero of gauge.

NEW LISKEARD.

New Liskeard, a town in Nipissing district, with a population of 2,100, is located at the mouth of the Wahbi river, on lake Timiskaming. The traffic figures during season 1912, show freight received at wharf, 260 tons, and freight shipped, 166 tons.

Minor urgent repairs were made to flooring of old dock acquired from the Timiskaming Navigation Company.

Expenditure for labour and materials, $59.34.

Contract, plans and specifications were prepared for a pile-work dock to extend out 707 feet, drawing 18 feet at the head, 202 feet long by 60 wide, and built to a height of 5 feet above R.W.S. of Lake Timiskaming, elevation 588·5, with graded approach 585 feet long. Tenders were called for and contract awarded to Messrs. McCool and Moffatt, at $10,985, Order in Council November 29, 1912.

The contractors, after considerable delay, proceeded to get work under way about March 15, 1913. A large part of the materials have been delivered at the site, but very little progress made with work up to end of March, actual pile driving having commenced March 31.

Expenditure to March 31, $1,865.67.

NORTH BAY.

North Bay, a town in Nipissing district, with a population of over 8,000, is located at the eastern end of lake Nipissing and is a divisional point on main line of C. P. Ry., and terminus of T. & N. O. Ry. and G. T. Ry., also a station on the C. N. Ry., under construction.

A contract was entered into with Mr. Ed. Conroy, of Peterborough, in December, 1911, for construction of a pile-work breakwater, for $13,900. Extra, amounting to $693.50, to supply and place shackles over piles and pile-cap stringers, was authorized. Work commenced in July and stopped in October, when all the piles were driven. Work was continued from the latter part of December, on the ice, and was 54 per cent completed at the end of the fiscal year.

The structure, when completed, will be 22 feet wide and average 647 feet long, in the form of a circular ring, having an outer radius of 303 feet, and consisting of pile-bents thoroughly sway-braced longitudinally and transversely both above and below water-line, and sheeted from 5 feet below proposed R.W.S., elevation 643, to a height some 8 feet above E.H.W.L., elevation 645·5.

Expenditure to March 31, $8,993.22.

*Dredging.*

The departmental dredge *Mattawa* worked at North Bay, on lake Nipissing (August 5 to 31), making five cuts, aggregating 1,433 lineal feet, 30 feet wide in the basin behind the Government wharf, to increase harbour accommodation for steamboats and gasoline launches.

Some 9,970 yards of clay, sand and quicksand, scow measure (5,802 yards, plus 2,769 yards silting, place measure) from examination in January, 1913, were removed to a grade depth of 14 feet, and spoiled in deep water one and a half miles from wharf

ORILLIA.

Orillia, county of Simcoe, is situated on the west shore of lake Couchiching, eighty-nine miles northwest of Peterborough, and twenty-three miles northeast of Barrie. Population, 6,000. It has a number of important manufactures.

On April 9 last, authority was given for the expenditure of $4,000 for the construction of a wharf, and instructions were issued to prepare contract, plans and specifications for same.

These were duly prepared and forwarded to Ottawa, and the contract awarded to Mr. D. Conroy, of Peterborough, for the sum of $10,874.

Work was commenced October 22 last, and closed for the season November 30. Work was resumed 1st February and is still in progress.

The work done consisted in the construction of the cribwork substructure.

Total expenditure for fiscal year, 1912-13, is $3,883.73.

OTTAWA.

The departmental dredge *Nipissing* worked at the Victoria island shipyard, Ottawa (May 14 to 25, September 12 to November 23), making ten cuts aggregating 2,173 lineal feet, 28 feet wide, in basin in front of shipways and along face of proposed dock, to improve approach to shipways and facilitate landing of boats at dock.

Some 15,190 cubic yards sawdust, gravel and boulders, scow measure (12,255 yards, place measure), from examination in February, 1913, were removed to grade depth of 13 feet, and spoiled in deep water, two miles down the river.

The departmental dredge *Nipissing* also worked at the South Chaudière slide (May 6 to 12), improving tail race of power house No. 2, belonging to the Bronson Company; 125 cubic yards of loose rock, scow measure, were removed and spoiled in deep water, two miles down river.

OWEN SOUND.

Owen Sound, county of Grey, is situated at the mouth of Sydenham river which flows into the head of Owen sound, which is an arm of the Georgian bay. It is the centre of an extensive agricultural district and is the terminus of the Georgian Bay branch of the G. T. Ry. and Lake Erie division of the C. P. Ry., Toronto, Grey and Bruce division. There are several lines of steamers running regularly to and from this place. Population, 12,000.

On April 9 last, authority was given to expend the sum of $38,200 for harbour improvements, and instructions were given to prepare contract, plans and specification for same.

These were duly prepared and the contract was awarded to Messrs. Bishop and Buchanan for the sum of $54,785.

Work was commenced August 30, and is still in progress.

The work done this season consisted in the driving of 400 feet of close-piling, and the placing of 3,200 cubic yards of earth filling, the removal of 360 lineal feet of old wharf and the driving of 800 round piles. This work is all on the west side of the harbour.

On April 9 last, authority was given to expend the sum of $25,000 for the construction of a revetment wall on the east side of the harbour, and instructions were given to prepare contract, plans and specifications for same.

These were duly prepared and the work awarded to Messrs. Butchart and Macdowall, for the sum of $18,900.

Up to date, no work has been performed on this contract other than the assembling of materials, consisting of piling and timber.

This work will consist of the construction of a revetment wall, 418 feet in length, having pile-work substructure and concrete superstructure.

On April 9 last, authority was given to expend the sum of $3,500 in repairs to the revetment wall on the west side of the harbour, by day labour.

Work was commenced September 3 last and completed February 28.

The work consists in the placing of concrete blocks 40 feet in the rear of the piling at 10-foot centres, connected to new lower walings placed below low-water level and screw-bolted to piling by anchor rods encased in concrete, with upset threads provided with turn-buckles, for a length of 333 feet.

In doing this work, some 300 feet b.m. hemlock, 5,652 pounds of iron, 6,830 feet b.m. rock elm, 114 cubic yards gravel, 85 barrels of cement, 20 cubic yards sand and 60 turnbuckles have been used.

*Dredging.*

On September 11 last, authority was given to have the departmental dredge *Industry* perform certain work at this place.

Work was commenced September 19 and completed October 12, and during this period the dredge removed 42,088 cubic yards, scow measurement.

This work consisted in dredging at the Doric Cement Company front and in cleaning up the south end of harbour where the spring freshet had deposited materials brought down the Sydenham river.

Total expenditure for fiscal year, 1912-13, is $13,572.47.

PARRY SOUND.

Parry Sound, district of Parry Sound, is situated on the east shore of the Georgian bay. Population, 3,000. The chief trade is in lumber. It is a very popular summer resort, and is a station on the C. P. Ry., G. T. Ry. and C. N. Ry.

On April 9 last, authority was given to expend the sum of $25,000 towards the construction of a wharf, and instructions were issued to prepare contract, plans and specifications for same.

These were duly prepared and the contract was awarded to Messrs. Richard Robinson, F. L. alton and Geo. W. White, of Parry Sound, for the sum of $72,000.

Work was commenced in December last, and is still in progress.

The work done to date consists in the construction of the cribwork ready for placing in position, and the assembling of the materials.

When completed, the wharf will consist of a wharf 300 feet long by 26 feet wide, having cribwork substructure and concrete superstructure, with an approach 115 feet wide by 230 feet long.

*Dredging.*

On July 2 last, authority was given to expend the sum of $2,300 in dredging, the work to be performed by the C. S. Boone Co., at 29 cents per cubic yard, place measurement.

This work was carried on from September 25 till October 15, and consisted in dredging alongside the Government wharf, and in doing same, some 7,407 cubic yards, place measurement, of sand, clay and sawdust were removed.

This dredging was performed to a depth of 18 feet below zero.

Total expenditure for fiscal year, 1912-13, is $9,106.63.

PELEE ISLAND.

Pelee island is situated on the western end of lake Erie in lat. 41° 46′ N, long. 28° 45′ W, about thirty-five miles southeast from the mouth of the Detroit river, and sixteen miles south of the town of Kingsville, Essex county. Population of the island, about 650. Its products are grapes, wine, fruit, tobacco and farm produce. The soil is particularly rich and fertile. A large number of hogs are raised. Owing to the isolated position of this territory, the docks of this island are of great importance and service to the inhabitants. For some years past, a regular line of steamers has called between three and four times a week at these docks, when weather permitted. It is a port of entry, and the revenue is steadily increasing. The draught of vessels using these docks is 10 feet.

*West Dock.*

On July 18 last, authority was received to expend the sum of $50, and on July 29 following, further authority was received to expend an additional $100 in making urgent repairs required to this landing dock.

Work was performed between August 4 and October 8 last, and consisted of the renewal of a few face timbers and the removal of about 30 cords of stone filling that had fallen out of landing dock into channel opposite same, and the replacing of this stone in the dock, also the sheeting of a gap 20 feet long on the face of dock, together with the renewal of a few planks in decking.

The total expenditure for the fiscal year, 1912-13, is $148.34.

PEMBROKE.

Pembroke, a town in Renfrew county, with a population of 5,600, is located on the south shore of the Ottawa river, 104 miles west of Ottawa on the C. P. Ry., also a terminus of G. T. Ry., and on the line of the C. N. Ry. under construction. Is the centre of large lumbering and other industries.

Replanking on dock completed, 160 by 50 feet on landing head, and 1,342 by 3 feet on approach sidewalk; wheel guard, 1,150 lineal feet built up on landing head; six fenders, 12 by 12 inch by 16 feet placed with 6 by 8 inch braces for ferryboat landing; minor repairs were made to nigger heads, also to warehouse and handrailing, which were painted. Most of work was done April 15 to May 18.

Expenditure to March 31, $1,357.47.

PENETANGUISHENE.

Penetanguishene, county of Simcoe, is a town of some 3,000 inhabitants, situated on the northwest peninsula of the Georgian bay, between Nottawasaga bay and Severn river, forty miles northwest of Barrie. It is the terminus of a branch of the G. T. Ry., and a large quantity of lumber is shipped from this place. It contains one of the largest tanneries in the Dominion, and there is also a box factory, a stove foundry, a number of saw-mills and other industries. It is also a popular summer resort.

On 9th April last, authority was given to expend the sum of $1,500 in repairs to the wharf, by day labour.

Work was commenced 15th June and completed 31st July, and consisted in renewing the decking on the northwesterly portion of the wharf, also renewing the waling and joists where necessary.

In doing this work some 23,002 feet b.m. pine, and 285 pounds of iron were used.

*Dredging.*

On 19th April last, authority was given to have the departmental dredge *Industry* remove 52,000 cubic yards, class 'B,' at the works of the Dominion Stove Co., but as

the company had not advanced sufficiently with the construction of their wharf they asked that this work remain in abeyance for a year.

On 20th June last, authority was given to have the Penetanguishene Dredging Co. remove 7,000 cubic yards, place measurement, at the McGibbon saw-mills, at 12 cents per yard.

This work was performed in June, and some 8,850 cubic yards, place measurement, were removed. The work was commenced previous to orders being issued, at the request of the mill company.

On the 17th October last, authority was given to have the Penetanguishene Dredging Company remove 5,000 cubic yards, place measurement, at 15 cents per cubic yard.

This work was carried on from the 12th to 19th October and from the 16th to 18th November, and during this period the dredge removed 2,006 cubic yards, place measurement. The delay in connection with this work was due to a serious break-down of the plant.

On 15th November last, authority was given to have a wreck removed from in front of the Adams Engine Works, by the Penetanguishene Dredging Co., at a cost of $900. This work has been duly performed.

Total expenditure for fiscal year, 1912-13, is $3,636.74.

### PETAWAWA.

Petawawa, a village in Renfrew county, with a population of about 800, is located on the south shore of the Ottawa river, ten miles above Pembroke and at the mouth of the Petawawa river. Important logging operations are carried on, and the military camp is located here.

At its last session, Parliament appropriated $4,000 towards the improvement of the pile-work wharf, built some years ago, owing to the encroachment of sand bar on log channel, etc.

A contract was entered into with Mr. C. L. McCool, in February, 1912, for construction of improvements to wharf for $3,290. Minor extras were approved to the amount of $203.36. The work was completed in June.

The improved wharf extends out some 400, 8½ feet above L.W.L., drawing 8 feet and over at landing face, 100 feet long. The approach includes a bridge 40 feet clear span, and 3 feet above wharf, for logging operations.

Expenditure to March 31, $1,587.59.

### PICKERING.

Pickering, county of Ontario, formerly known as Frenchman's Bay, is situated on the north shore of lake Ontario, twenty-one miles east of Toronto.

#### *Dredging.*

On July 8 last, authority was given to have the departmental dredge *Sir Richard* perform certain dredging, estimated quantity being 25,600 cubic yards, and September 21 last an additional quantity of 3,000 cubic yards, in situ, was authorized.

Work was commenced July 19 and completed September 28, and consisted in dredging in front of the ice wharfs alongside the inner harbour, and dredging between the piers to improve the entrance to the inner harbour.

In doing this work, the dredge removed some 29,700 cubic yards, scow measurement.

### PICNIC ISLAND.

Picnic Island, Manitoulin Island, district of Algoma, is situated about one and a half miles west of Little Current on the main steamboat channel from Little

Current to Sault Ste. Marie. Two saw-mills are located on this island, and the population varies from 50 to 300 according to whether or not the saw-mills are in operation.

*Dredging.*

On May 15 last, authority was given to have the dredging resumed at this place, for which a contract with the C. S. Boone Co. at the following rate, viz., $1.70 per cubic yard for class A, had been extended.

Work was resumed May 20 and closed for the season November 4, and consisted in dredging 23,484 cubic yards of rock from the area in the original contract, and 31,000 cubic yards of rock from shoal No. 1, being part of the extension, and having a mean length of 650 feet and a mean width of 170 feet; when completed, the depth will be 22 feet below elevation 580.

Total expenditure for fiscal year, 1912-13, is $102,833.30.

PICTON.

Picton, Prince Edward county, is the county town, and has a population of 3,500, and is situated on the Bay of Quinté. It has a number of large canneries and other industries, and is an important shipping point, also a regular port of call for all liners from Toronto and Montreal.

*Dredging.*

On May 30 last, authority was given to have certain dredging performed, for which a contract had been awarded to Messrs. Fallon Bros. of Cornwall, at 17 cents per cubic yard, place measurement.

Work was commenced September 8 and closed for the season December 15, and consisted in the general deepening of the harbour to a depth of 12 feet below zero, and in doing this work, some 37,195 cubic yards, place measure, have been removed.

The total expenditure for fiscal year, 1912-13, is $6,497.79.

POINT EDWARD.

Point Edward is a village situated at the head of, and on the easterly side of the St. Clair river, in the county of Lambton, adjoining the town of Sarnia, and is sixty-one miles west of London. It is the terminus of the Grand Trunk Railway. It is a port of entry, and is the principal port of call for the five steamers of the Northern Navigation Company, which load and unload at the Grand Trunk Railway Company's spacious freight sheds. An extensive unloading plant is in use at this place in connection with the unloading of iron ore for the Hamilton Iron and Steel Company. In the season of 1911, 2,394,081 bushels of grain were handled through the Grand Trunk elevator at this point. It is one of the most important points of shipment of manufactured goods from the east to the west. A large amount of timber and coal were brought in during the last season. The annual revenue has reached as high as $200,000. The maximum draught of vessels entering this port is 21 feet. An extensive fishing trade is carried on, the value of the annual catch being in the vicinity of $25,000.

On April 27, 1910, an Order in Council was passed granting the Cadwell Sand and Gravel Company, of Windsor, Ontario, the exclusive privilege to dredge the material required to be removed in order to maintain a depth of at least 21 feet of water opposite the docks at Point Edward, on the condition that the said mentioned company be allowed to dispose of the dredged material for its own purposes.

*Dredging.*

During the past season, 50,500 cubic yards of sand and gravel were removed by the Cadwell Sand and Gravel Co., of Windsor, Ont., from the river St. Clair, opposite Point Edward and Sarnia.

Total cost of inspection was $769.

PORCUPINE.

Porcupine, a mining town in Nipissing district, on the T. and N. O. Ry., is located at the north end of Porcupine lake.

At its last session, Parliament appropriated $3,700 for the construction of two public wharfs, for the ferry service on Porcupine lake.

Construction of wharf was begun, by day labour, June 17, and completed August 8, and shore approach was extended as a further improvement, September 21 to 30.

The structure is of pile-work, extending out 271 feet, drawing some 4 feet of water at landing face, formed of a landing head 32 by 40 feet, with approach 12 feet wide, built to a height of 4½ feet above L.W.L. at foot of King street.

Expenditure to March 31, $2,188.09.

The other wharf was built at South Porcupine.

PORT ARTHUR.

The city of Port Arthur, population 17,000, is situated on the west shore of lake Superior, district of Thunder Bay. Port Arthur and Fort William, which directly adjoins on the south, are the two principal Canadian ports on lake Superior, and form the western terminus of the Great Lakes navigation.

Port Arthur is the lake Superior terminal of the Canadian Northern railway and is on the main line of the Canadian Pacific railway. It is a port of entry for the Canadian Pacific and Northern Navigation passenger steamers, and for passenger steamers from Chicago, Duluth and other ports in the United States.

Large quantities of grain are brought from the West to Port Arthur and transhipped by boat and rail to the East. The Canadian Pacific railway is doing much double tracking both east and west, and the main line of the Canadian Northern railway between Port Arthur is expected to be ready for traffic early in 1914.

The following are some of the chief industries that give Port Arthur importance as a manufacturing and shipping port: Canadian Northern elevator, capacity increased from seven million bushels to nine and a half million bushels; the new elevator under construction for the Board of Grain Commissioners for Canada, capacity 3,250,000 bushels; Pigeon River Lumber Co., capacity 30,000,000 feet per annum; the Atikokan Iron Co.; the Canadian Northern Coal and Ore Dock, storage capacity, 650,000 tons; the Western Dry Dock and Shipbuilding plant.

It is also the centre of a large lumber industry, a great many ties and piles and much pulp wood being cut annually. Several large contracting firms make it their head-quarters.

By the use of an ice-breaking tug it has now been found possible to move vessels about the harbour all through the winter. Many vessels have taken advantage of this to lay up in Port Arthur during the closed season and act as storage vessels for grain, thus relieving the congestion at the elevators. Boats wintering here by this means have also been able to make the dry dock for repairs. The number of vessels laid up here during the past winter was 27, and the amount of grain stored in them was 3,500,000 bushels. Of these vessels, 11 made use of the dry dock for overhauling and repairs.

The shipping statistics for 1912-13, are as follows:—

Grain shipments: via lake, 44,000,000 bushels; via rail, 3,000,000 bushels. Coal, delivered via lake: Anthracite, 587,000 tons; bituminous, 167,000 tons; vessels discharging same, 129. Rails, delivered via lake, 125,000 tons. Customs receipts, $888,000. Number of vessels using harbour, 1,915; total tons register, 3,475,000.

*Bare Point Breakwater.*

Contract No. 8592, Thunder Bay Contracting Co. Rubble mound construction, length, 3,200 feet; width at water line, 48 feet; height above water, 8 feet.

This work was recommenced on May 9, 1912, and proceeded with from both ends. The shore end has been practically completed for a distance of 1,625 feet, with the exception of the large 6 to 10 ton covering course. This portion of the work was carried on by train-fill from a temporary trestle.

At the outer end, the stone was placed from scow and the core of quarry-run stone largely completed for a distance of 1,155 feet.

The work was suspended for the season, December 7, 1912.

Amount of stone placed, 1912-13: core of quarry-run, 152,492 tons; large rubble-stone, 88,275 tons.

This work consisted of placing riprap along the south or outer end of the work, known as the new breakwater, for a distance of 254 feet on the seaward face and 208 feet on the harbour face. It was done to prevent further settlement, caused by the soft nature of the bottom. The seaward face for the above distance had been partially riprapped under the original contract.

The work was started October 8, 1912, and 6,787 tons placed up to December 13, 1912, when work was suspended for the season.

Owing to the condition of the ice, it has been impossible to sound this work and ascertain whether sufficient stone has been placed or not. As soon as possible, soundings will be taken and a report made.

Amount of stone placed, 1912-13, 6,787 tons.

*New Breakwater Extension.*

Contract No. 9286, Thunder Bay Contracting Co. Concrete superstructure, length, 2,730 feet; timber substructure, width, 30 feet with pile foundation; head-block at end for lighthouse, 40 by 80 feet.

Alternative plans, specifications and estimates were prepared for this work and the above type chosen. The contract was let and authority to proceed given November 28, 1912.

The work of driving the pile foundation and cutting off the piles at the proper elevation was begun on February 8 and completed on March 28. Three pile-drivers and one pile cutting machine were employed; 3,767 piles were driven and cut, a total of 149,574 lineal feet of piling being left in the work.

The work of crib construction was commenced on March 7, and 16 cribs are already well under way.

*Dredging.*

Two dredges employed, the *Kannaquhair* and the *Chief;* length of haul, two miles. Comparison of inspector's returns and quantities from surveys made after work was completed.

| Locality. | Inspector's Returns. | From Survey. | | |
|---|---|---|---|---|
| | Scow Measure. | Place Measure. | Expansion Factor. | Scow Measure. |
| | cu. yds. | cu. yds. | per cent. | cu. yds. |
| 1. Channel to King's elevator | 63,004 | 46,200 | 1·4 | 65,000 |
| 2. Widening north end coal dock channel | 629,244 | 437,000 | 1·4 | 612,000 |
| 3. Corner near elevator B | 77,590 | 53,500 | 1·4 | 74,900 |

The slips were not sounded, as boats were lying in them for the winter. The work at the Government elevator slip is impossible to estimate, as a hydraulic dredge working under Trade and Commerce Department went over this slip also.

All work authorized was completed. No departmental dredges were employed.

Contract No. 7386 extended. Work commenced May 15, 1912; closed November 27, 1912. Object of work: General improvement and enlargement of harbour.

DREDGING DONE.

| Locality. | Width. | Length. | Depth made. | Material. | Amount Removed. | Unit Price. | Amount Expended. |
|---|---|---|---|---|---|---|---|
| | Feet. | Feet. | Feet. | | Cu. Yds. | $ cts. | $ cts. |
| 1. Channel to King's elevator | 70 | 2,200 | 22 | Clay and sand.. | 63,004 | 0 13 | 8,190 52 |
| 2. Slip, new, C.N.R. steel dock | 120 | 440 | 25 | Clay and sand.. | 21,292 | 0 13 | 22,767 96 |
| Removal of approximately 150 piles of old dock, (bulk sum) | ..... | ..... | ..... | ..... | ..... | ..... | 100 00 |
| 3. Widening north end coal dock channel | 575 | 2,300 | 25 | Clay and sand.. | 629,244 | 0 13 | 81,801 72 |
| 4. Corner near elevator B | 320 | 1,260 | 25 | Clay and sand.. | 77,590 | 0 13 | 10,086 70 |
| | | | | Boulders | 3 | 2 00 | 6 00 |
| 5. Rock near Thunder Bay elevator | Irreg'lar | .. .. | 25 | Slate rock | 4,608 | 0 60 | 2,764 80 |
| | | | | Clay and sand.. | 2,988 | 0 13 | 388 44 |
| 6. Slip, Board of Grain Commissioners, Canada, elevator, including crib seat | 70 | 1,100 | 19 | Clay and sand.. | 34,432 | 0 13 | 4,476 16 |
| Cast over | .. .. | ..... | ..... | Clay and sand.. | 6,430 | 0 8½ | 557 27 |
| 7. Re-dredging in front of C.N.R. coal dock | 40 | 400 | 22 | Clay and sand . | 1,506 | 10 hrs at $44... | 440 00 |
| | | | | | 841,197 | | 111,579 57 |

*Western Dry Dock.*

The sewage system throughout the yard has been completed so far as buildings now completed are concerned. The water mains were laid throughout the plant from the city main. The revetment dock, from entrance, was completed; total length of revetment is 890 feet. A fire alarm system connecting with the city fire department was installed throughout the yard. Twenty-nine additional concrete keel blocks were built in the building berth. Two more locomotive travelling cranes, 10 tons capacity each, were purchased. Thirty launching ways, 24 by 24-inch by 75 feet, delivered in the yard during the summer 1912.

Most of the buildings have been constructed, and most of the machinery has been installed, according to contract.

In order to complete the plant, the company has still the following buildings to put up: one foundry, 120 by 65 feet, steel and brick, now in course of construction, with machinery; one blacksmith shop, 100 feet long by 50 feet wide, with machinery, part of which is in temporary shop; one pattern shop and storage, three story brick building, 85 by 35 feet with composition roof, and machinery; one warehouse, 100 by 60 feet, steel and brick, one story building, with concrete foundation on flooring and all inside furnishings; one permanent building over pumps at entrance of dry dock, to replace temporary one.

The company will start work on the above buildings as soon as the frost is out of the ground, and expect to have all these buildings completed by the month of November, 1913.

All the buildings put up by the company are well and substantially built and all the machinery installed is of the best and latest design.

The plant up to date is as follows: one solid concrete dry dock, 700 feet long by 98 feet wide; one steel building berth runway, 700 feet long, with one 10-ton electric

Gautry crane; railway trackage throughout yard; water works system and sewage system; fire alarm system; one revetment dock, 890 feet long from entrance; one set 80-ton shearlegs, with building and machinery; three travelling cranes for yard; one gasoline launch, 45 by 10 by 5 feet, 4-cylinder engine; fence 8 feet high, enclosing property. At the Western dry dock, 49,965 yards were dredged to a depth of 17 feet at a cost of $23,250.45.

PORT BRUCE.

Port Bruce is a village, situated at the mouth of Catfish creek, in the county of Elgin, on the north shore of lake Erie, about five miles south of Aylmer, Ont. Population, about 150. Surrounding country is a rich farming district. Principal industry is fishing, in the pursuance of which it ranks as an important place.

At the last session of Parliament, a sum of $1,800 was voted for the completion of the extension to west pier and repairs and renewals to both piers, and on the 10th April, 1912, authority was given to proceed with the work.

Operations were commenced on the 14th August, 1912, and continued until the 8th March last, during which time 230 lineal feet of new landing dock were provided on westerly side of harbour by cutting off the old foundation piles and constructing on them a crib superstructure, 14 feet wide, and carried to a height of approximately 4 feet above L.W.L. Decking was then placed on said crib work. A 92-foot extension to end of west pier was completed, which included placing of 45 cords of gravel in same and partial decking of this extension.

In the execution of the above work approximately 43,800 feet b.m. of chestnut, pine, white oak, and 383 pounds of iron were used.

Total expenditure for the fiscal year 1912-13 is $1,798.87.

*Dredging.*

During the past season, the dredging consisted in work done by the Government dredge *Sir Richard,* between November 2 and 28 in deepening the entrance to channel between piers to a depth of 12 feet below L.W.L., and in providing a safe depth of 9 feet below L.W.L. towards the inner end of said channel.

On completion, the dimensions of the work done consisted of one area, approximately 150 feet long, 50 to 60 feet wide and 12 feet deep; and a second area, 125 feet long, 30 feet wide and 9 feet deep.

The result of this work was a channel, approximately 800 feet long, 60 feet wide, and varying in depth from 9 to 12 feet below L.W.L.

The total quantity of material moved was 5,800 cubic yards, scow measurement, of sand, gravel and clay.

PORT BURWELL.

The village of Port Burwell is situated at the mouth of Otter creek on the north shore of lake Erie, twenty-two miles east of Port Stanley. It is the terminus of a branch of the C. P. Ry. It is a harbour of refuge and is distant fifty-one miles from the Port of Ashtabula, Ohio, with which place an extensive traffic is carried on. The car ferry operated between this port and Ashtabula by the Pennsylvania-Ontario Transportation Company brought in 10,722 cars during the season of 1912, with a tonnage of 444,007 tons. Population, about 350. The customs duties collected during the past season amounted to approximately $200,000. A small fishing trade is carried on from this point, while it is also a summer resort.

At the last session of Parliament, the sum of $100,000 was voted for harbour improvements.

On the 30th March, 1911, a contract was awarded to Mr. M. J. Hogan, of Port Colborne, Ontario, for the construction of a breakwater 1200 feet long, for the sum of $157,000, and work was in progress at the beginning of the past fiscal year, operations

being continued until about the 30th November, 1912, when work closed down for the winter.

The design of this structure is of close-faced timber cribwork 30 feet wide and 24 feet high, filled with stone ballast for substructure, and superstructure of mass concrete.

Up to the 30th November last, 1,100 feet of crib substructure was placed and filled with stone ballast, and 820 feet of concrete superstructure was completed. A big storm, in July last, partially destroyed a 100-foot crib of this work before the filling was completed; this crib is to be removed by a dredge this spring, and a new crib substituted. This accident, together with more or less continual windy weather which prevailed throughout the past season, interfered seriously with the progress of this work, and made impossible its completion within the time required by the contract. On the 15th October last, an extension of time to the 1st July next was granted to the contractor to complete this work. That portion of the work completed to date is excellent in character.

The construction of this breakwater has already proved of immense benefit to the operation of the car ferry at this point, providing, as it does, protection required at entrance to piers when heavy weather prevails.

*Repairs.*

Repairs were carried on throughout the season, and consisted of the construction of a pile protection wall 275 feet long between end of west pier and northerly end of breakwater now under construction. A storm, in September last, damaged 60 feet of this piling to such an extent that it had to be removed this fall, and the remaining portion of the piling strengthened by additional piles.

The total expenditure during the fiscal year, 1912-13, is $65,188.18.

*Dredging.*

The dredging done during the past season consisted in work done by the Government dredges *Quebec* and *Sir Richard,* the former operating from April 16 to 25 and the latter from October 10 to 24 respectively.

The object of this work was to remove several heavy shoals which had formed in the outer channel, and which limited the safe depth for navigation to almost 16 feet below L.W.L.

On its completion, the dimensions of the finished work were found to be 750 feet long, 30 wide at base and 20 feet deep below L.W.L. In all, 9,100 cubic yards, scow measurement, of sand, clay and silt were removed.

PORT COLBORNE.

Port Colborne, county of Welland, is situated on the north shore of lake Erie, about twenty miles west of the city of Buffalo. It is the terminus, on lake Erie, of the Welland canal, and it is a port of great importance in connection with the transportation of grain and other freight from the west to St. Lawrence ports.

On April 10 last, authority was given to expend the sum of $17,000 in repairs to the head-block of the east breakwater, and instructions were issued to prepare contract, plans and specifications.

These were duly prepared and the work advertised twice, but no tenders were received.

The work to be done consists in the reconstruction of the head-block of the eastern breakwater for a length of 75 feet 6 inches by 59 feet wide, and a height of 12 feet in all concrete.

Up to date there has been no expenditure.

PORT FINDLAY.

Port Findlay, district of Algoma, is situated on the north shore of lake Huron, about 6 miles below the entrance to St. Mary's river, and thirty miles southeast of Sault Ste. Marie.

On 9th April last, authority was given to expend the sum of $6,600 in wharf extension and warehouse construction by day labour.

Work was commenced 20th May last, and was completed on the 19th March last, and consisted in the construction of an 'L' at the outer end of the wharf, composed of solid cribwork 50 by 24 feet and a warehouse 50 by 24 feet, placed on cribwork foundation on the east side of the wharf in the angle formed by the 'L.'

In doing this work, some 60,375 feet b.m. hemlock, 58,204 feet b.m. pine, 4,793 pounds of iron, 3,158 feet b.m. oak, and 90 cords of stone were used.

The expenditure for fiscal year, 1912-13, is $6,604.68.

PORT HOPE.

Port Hope, county of Durham, is situated on the north shore of lake Ontario, sixty-three miles east of Toronto on the G. T. Ry. The chief trade is in lumber and grain. It has a number of important industries. Population, 5,000.

On 9th April last, authority was given to expend the sum of $9,000 in wharf repairs and improvements by day labour.

Work was commenced 10th May and completed 31st March, and consisted in filling in with cribwork the angle on the west side of the east breakwater, for a length of 352 feet 6 inches with a maximum width of 40 feet; renewing the superstructure of the east pier for a length of 365 feet with a width of 16 feet; repairing the decking for a length of 242 feet by 16 feet of the Standard Ideal Company's wharf along the east face of same.

In doing this work, some 13,025 feet b.m. cedar, 5,630 pounds of iron, 722 cubic yards stone, 54,300 feet b.m. hemlock, 128,227 feet b.m. pine, 9,000 shingles and 45 feet b.m. of oak were used.

*Dredging.*

On 30th May last, authority was given to perform certain dredging, for which a contract had been awarded to the R. Weddell Co., at $4.50 per cubic yard for Class 'A.'

Work was commenced 1st August last and was completed 2nd December, and consisted in dredging in the slip between the east pier and the wharfs of the Standard Ideal Company to a depth of 15 feet below zero for a length of 485 feet, with an average width of 65 feet, also dredging was performed at the south end of the Standard Ideal Company's wharf. The work at the end of the Standard Ideal Company's wharf was authorized on 13th November, same to be performed by the R. Weddell Co., at 24 cents per cubic yard, scow measurement.

These works have been satisfactorily completed, and in doing same, some 6,190 cubic yards of rock and 1,622 cubic yards other materials were removed.

Total expenditure for fiscal year, 1912-13, is $37,608,28.

PORT ROWAN.

Port Rowan, in the county of Norfolk, is situated on the north shore of lake Erie, in the inner bay of Long Point, and is twenty-one miles from the town of Simcoe. Population, about 1,000. It is a port of entry, and a favourite summer resort. A considerable amount of fish is shipped over the dock. It is a terminus of a branch of the Grand Trunk railway. A large number of launches and light draught tugs utilize these piers continually, more particularly during the summer season, and it is a harbour of refuge for crafts of this character. Customs duties collected during the fiscal year 1911-12 amounted to $1,027.92.

At the last session of Parliament, the sum of $4,100 was voted for repairs and renewals to landing pier, and on the 10th April, 1912, authority was received to proceed with the work.

Operations were commenced on the 8th May 1912 and continued until the 3rd December last. The work performed consisted of the construction of 12 concrete piers, together with a pile foundation on same; the renewal of a considerable portion of the face timbers and decking on the outer 82 feet of the pier; the placing of 177 lineal feet of wheel guards; the placing of 74 loads of clay filling on approach, as also providing and laying of plank sidewalk 30 inches wide over a length of 230 feet of said approach.

In the execution of the above work 13,870 feet b.m. of chestnut and oak timber, 2,610 pounds of iron and 336 lineal feet of piling were used.

The total expenditure during the fiscal year, 1912-13, is $4,089.48.

PORT STANLEY.

Port Stanley is an important harbour of refuge, situated on the north shore of lake Erie, at the mouth of Kettle creek, in the county of Elgin, eight and a half miles by rail south of the city of St. Thomas, and twenty-three and a half miles south of the city of London. It is the terminus of the Pere Marquette Railway, and of the London and Lake Erie Railway and Transportation Company. It is a favourite summer resort. Population, about 750, which is largely increased during the summer months.

A large coal ferry, owned by the Lake Erie Company, of Walkerville, Ontario, and carrying 30 cars, each of a capacity of 100,000 pounds, plies between this port and Conneaut, Ohio, making an average of two round-trips every 30 hours. During the season of 1912, 403,000 tons of coal were brought into this port by car ferry. It is a port of entry, and the revenue collected during the past fiscal year amounted to approximately $79,426.89. It is a most important fishing point, some 16 tugs being employed in this business.

It is a regular port of call for three lines of steamers, carrying passengers and considerable package freight. There is a small grain elevator which handled 201,299 bushels of grain during the season of 1912. Maximum draught of vessels entering this port, about 18 feet.

During the season of 1911, 517 vessels entered this port with a tonnage of 491,721 tons. In addition to the imports already mentioned, timber, ties, fence posts and general merchandise are handled over the piers.

At the last session of Parliament, a sum of $150,000 was voted for harbour improvements, and on April 10 last, authority was received to expend $11,700 of the grant on repairs and renewals to piers.

*East Pier.*

The outer end of this pier was refilled with stone to water level; oak waling was placed around the sheet piling that had been previously driven, and cross iron tie-rods placed to fasten said piling to pier.

*West Pier.*

One hundred and ninety feet of re-inforced concrete superstructure was built, and 50 feet of this pier entirely renewed; 140 feet of pier were removed preparatory to renewal; 1,800 feet b.m. of 2-inch decking laid on outer end of pier, and a storehouse, 8 by 8 by 20 feet, constructed; also minor repairs were made to decking.

In addition, one new 20 h.p. up-right boiler was installed in Government pile-driver, and other repairs made to said driver. The sides of the departmental warehouse were covered with heavy tar paper.

In the execution of the above work, approximately 20 pounds of nails, 7,577 feet b.m. hemlock, 2,640 lineal feet of tamarac piling, 16,000 ponnds of iron and 166 tons of stone were used.

*Breakwater.*

On December 30, 1911, a contract was awarded to Mr. M. J. Hogan, of Port Colborne, Ontario, for a sum of $210,376, for the construction of a breakwater 1,200 feet long to protect east side of entrance to harbour.

The character of this work is close-faced timber substructure, filled with stone ballast, and mass concrete superstructure.

Operations were commenced about April 22, and continued until October 31 last, when, owing to extremely adverse weather conditions, work was closed down for the winter. The work performed to latter date consisted of the construction of 400 feet of substructure, and the partial construction of two additional cribs, each 100 feet long. The progress made with this work was not altogether satisfactory. The reason given, however, by the contractor that this was due to more or less continual windy weather, which prevailed throughout the season, as also to the difficulty in securing labour, are no doubt largely responsible for delay in the work.

Total expenditure during the fiscal year, 1912-13, is $72,828.49.

*Dredging.*

During the past season, a total of 18,470 cubic yards, scow measurement, of sand, silt and clay were dredged by the Windsor Dredging Company, with the dredge *Peltier,* in partially removing several bars which had formed in the channel and at the outer entrance.

The object of this work was to provide a safe depth of navigation of at least 20 feet below L.W.L. throughout the whole of the channel, and to widen it where required.

At the outer entrance to channel, and in range, a cut 300 feet long, 30 feet wide, was dredged to 22 feet below L.W.L., and in the turning basin, at inner end of harbour, two cuts were made, one 500 feet long and the other 350 feet long, each 30 feet wide and 20 feet deep below L.W.L.

Only a small portion of the work originally laid out was completed on account of the lateness of the season in starting a dredging plant at work, and on account of continued stormy weather, but on its completion, the channel was in the following state: In turning basin, the minimum depth below L.W.L. was 17·5 feet; between piers for a width of 50 feet, and outside of the piers for a length of 600 feet and to a width of 200 feet, a minimum depth of 19·0 feet existed, and thence out at a distance of 200 feet from the range, there was a channel 100 feet wide, having a minimum depth of 18·0 feet.

The operation of dredging extended from the 21st October to the 9th December last.

The cost of the work was as follows:—

| | |
|---|---|
| 18,470 cubic yards, scow measurement, of sand, silt and clay at 27 cents | $4,986 90 |
| Inspection | 147 30 |
| Total | $5,134 20 |

PROVIDENCE BAY.

Providence Bay, district of Algoma, is situated on the south shore of Manitoulin island, lake Huron, about twelve miles northwest of Michael's bay, thirty miles by road from Manitowaning, and twenty miles from Gore bay. Population, 300. It has

a large saw-mill, is a fishing station of considerable importance, and is one of the principal ports on the Island, at which all local steamers call.

On 9th April last, authority was given to expend the sum of $16,500 in the construction of an extension to the wharf.

A contract for this work had been awarded on the 25th December, 1910, to Mr. C. H. Sherwood, of Port Arthur, for the sum of $15,438.

Mr. Sherwood commenced work 28th May, 1911, and continued same until the 24th July, 1911.

On the 24th July, 1911, a terrific storm occurred which caused the first crib, 20 by 80 feet, which had been built, placed in position and filled with stone, to settle.

In view of this calamity, Mr. Sherwood asked to be relieved of the contract and offered to turn over the work done and materials on the ground at cost price.

On 19th June last, the department decided to relieve Mr. Sherwood, and pay him at proportionate rates of his contract prices for the work done. Plans and specifications were prepared so that tenders might again be called.

On the 29th October last, the contract, plans and specifications were duly forwarded to Ottawa and the work awarded to Mr. E. V. H. White, of Burlington, at $21,480. Up to date, this work has not been commenced.

The work will consist of an extension to the existing wharf 294 feet 6 inches long by 20 feet wide, composed of a double row of close-piling with stone filling between for a length of 294 feet 6 inches, and solid cribwork for 160 feet by 20 feet with a head-block of 40 by 32 feet.

The total expenditure for fiscal year, 1912-13, is $10,516.50.

### RAINY RIVER.

An examination and survey was made, at Rainy River, Ontario, December 9 last, of a site for a proposed wharf. It was decided that the foot of Fourth street was the most convenient site, and at the same time deep water is reached within a reasonable distance. The dimensions of proposed wharf would be 26 by 160 feet. A wharf of pile construction was recommended to be built, at a cost of $4,800.

#### *Dredging.*

Dredging at the mouth of Rainy river was not resumed until August 17, the water in the Lake of the Woods having risen until it stood practically 1·4 feet above zero of the gauge, 3·4 feet above what it was last autumn.

With the water at this height, it was necessary to dredge a channel on the west side of Grassy Portage a distance of 3,800 feet, 75 feet wide, and extreme depth of 11 feet. A channel was also dredged from Grassy Portage, north, for a distance of 5,400 feet, averaging 90 feet in width and to 11 feet below zero, 1 foot being allowed for variation in dredging.

The total quantity taken out by dredge *Noose* was 65,982 cubic yards of sand and clay. The contractor for this dredging is J. T. Horne, of Fort William, Ontario, and the contract price is 37 cents per cubic yard, scow measurement.

### RED BAY.

Red bay, county of Bruce, is a good harbour on the lake Huron shore of the Bruce peninsula, twelve miles from Wiarton, the nearest railway station.

On April 9 last, authority was given to expend the sum of $3,000 in the construction of a wharf by day labour.

Work was commenced June 18 and completed September 5.

The work consisted in the construction of a wharf 141 feet in length by 14 feet in width, composed of cribs and spaces, the spaces being 16 feet; also one crib 30 by 20 feet connected to the shore by a stone approach of 75 by 14 feet.

In doing this work, some 3,267 pounds of iron, 10,576 feet b.m. pine, 6,559 feet b.m. cedar and tamarac, 21,068 feet b.m. cedar, and 17,110 feet b.m. birch, maple and hemlock were used.

Total expenditure for fiscal year, 1912-13, is $2,020.36.

### RICHARD'S LANDING.

Richard's Landing, district of Algoma, is a small village situated on the north shore of St. Joseph's island, in Georgian bay, distant nine miles by water from Desbarats, the nearest railway station. Population, 350.

On 9th April last, authority was given to expend the sum of $1,000 in wharf repairs by day labour.

Work was carried on from the 3rd to 8th June; 24th to 31st August; from the 2nd to 30th September, and from the 4th to 11th October.

The work consisted in repairing the decking of the wharf and constructing a shed for hay, 24 by 40 feet, on same, at the easterly end.

In doing this work, some 4,300 feet b.m. pine, 264 balsam, 440 pounds of iron, 138 feet b.m. tamarac, 294 feet b.m. cedar, 9,323 feet b.m. hemlock and 440 lineal feet of hemlock were used.

Total expenditure for fiscal year, 1912-13, is $996.22.

### RIVER THAMES.

The river Thames flows through the city of Chatham, and eighteen and a half miles west of the latter place it empties into lake St. Clair. At its mouth, a channel, 8,100 feet in length, has to be maintained in order to reach deep water in the lake. Owing to the shifting character of the bottom of this channel, the material being sand, continual filling in occurs, and, in consequence, the cleaning out of the channel has to be performed almost annually, in order to provide a minimum depth of 12 feet. A steady traffic prevails in and out of this river throughout the season, from the city of Chatham and the smaller points lying between the city and the mouth of the river. The Chatham Navigation Company operates a passenger and freight boat between the cities of Chatham, Windsor and Detroit, making three trips per week. The maximum draught, as far as Chatham, is now about 12 feet.

At the last session of Parliament, a sum of $4,000 was voted for the clearing of obstructions in this river, between the town of Chatham and the mouth of the river, a distance of about nineteen and a half miles.

Operations were commenced on the 3rd May, 1912, and continued until 14th December following, when work closed down for the winter. A small amount of work was also performed during the month of March, 1913, on the log-lifting outfit.

Between these dates, the river was cleared of sunken logs, trees, etc., for a distance of approximately four and a half miles, and some 2,595 pieces of material removed; 10,027 feet b.m. of the logs recovered, and which were found to be saleable, were sold for a price of $10 per M., thus giving a revenue of $100.27, which was placed to the credit of the work. Owing to the difficulty experienced in hiring the necessary labour and log-lifting plants to perform this work expeditiously, it was found necessary to purchase log-lifting outfit, which will be available for future use.

The work performed has proved of immense benefit to safe navigation of this river, and the results have proved that not only does the removal of these obstructions remove a source of danger to vessels, but also prevents the formation of bars in the river, which would have to be removed by dredging at a considerable cost.

The total expenditure for the fiscal year, 1912-13, is $3,682.13.

*Dredging.*

During the past season, the dredging consisted in work done by the Government dredge *Ontario* between the 27th May and 22nd June and between September 9th and 15th, 1912.

The object of this work was to provide a channel 150 feet wide at base and 14 feet deep at L.W.L.

It was found impossible to fully complete this work, as no adequate plant could be spared for it, but on the completion of the work done, which consisted of a cut 30 feet wide and 2,690 feet long, a channel 100 feet wide at base and 14 feet deep and extending for a distance of one and a half miles had been provided.

Total quantities removed were 9,200 cubic yards, scow measurement, of sand and clay.

ROBIN'S LANDING.

Robin's Landing, county of Northumberland, is situated on the north shore of Rice lake. The wharf is used for the shipment of farm produce.

On 8th August last, authority was given to expend the sum of $260 in repairs to the wharf by day labour.

This work was performed by the Department of Railways and Canals, and consisted in sheeting up the piers with elm, placing new joists and replanking of the deck.

RONDEAU.

Rondeau is an important harbour of refuge, and a port of entry, situated on Pointe aux Pins, about nineteen miles south of the city of Chatham, and forty-five miles west of Port Stanley. It is a favourite summer resort, and is a terminus of the Sarnia and Rondeau branch of the Père Marquette Ry. Population, about 125, which is increased to about 600 in the summer months.

In the inner harbour, and at westerly side along coal dock, a modern and extensive coal handling plant is used by the Lake Erie Coal Company for unloading coal from their boat, which runs regularly between this point and Conneaut, Ohio. During the season of 1912, 260,000 tons of coal were brought in at this point. The annual customs duties, for the year 1911-12, amounted to $82,912.28. During the same period, 183 vessels arrived, with a tonnage of 142,742 tons, exclusive of coal. A small fishing trade is carried on. Maximum draught of vessels entering this port is about 18 feet.

At the last session of Parliament, a sum of $2,500 was voted for repairs to piers, and on the 10th April authority was received to expend the grant.

Work was commenced on the 25th April and on the 9th November was closed down for the season. Between these dates the following was performed:—

*West Pier.*

General repairs made to face timbers; 2,500 square feet of dock renewed; 3 mooring posts renewed; general repairs made to stringers, waling and decking.

*East Pier.*

One mooring post renewed; repairs made to outer end of pier; general repairs to decking.

In addition, 88½ cords of heavy riprap were placed along outer 600 feet of br water pier on channel side and along outer end of structure, to protect its base f further erosion,

Stone filling was also renewed in holes found in east and west piers.

In the execution of the above work, 560 lineal feet of white oak piling, 23,729 feet b.m. white oak and pine, 775 pounds of iron and 88½ cords of stone were used.

Total expenditure for the fiscal year, 1912-13, is $2,498.72.

Proposed Breakwater 19,600 ft. by Western Section
"B"
HUMBER BAY
HOWARD HIGH PARK
PARK
NEW WESTERN CHANNEL
Proposed Reinforcement
HARBOUR
"D"
Marginal Wall
"C"
ASHBRIDGES BAY
TURNING BASIN
EASTERN CHANNEL
Proposed Sea Walls - Eastern Section
"A"
LAKE ONTARIO
WOODBINE RACE COURSE
PARK
RIVERDALE
TORONTO HARBOUR

ROSSEAU.

Rosseau, district of Parry Sound, is a popular summer resort at the northerly end of lake Rosseau, and is largely patronized by tourists.

On 9th April last, authority was given to expend the sum of $300 in wharf improvements by day labour.

Work was carried on from the 16th to 20th July, and consisted in the installation of the Siche Gas Plant for the lighting of the wharf and warehouses.

Total expenditure for fiscal year, 1912-13, is $165.

ST. JOSEPH'S ISLAND.

St. Joseph's island, district of Algoma, is situated on the north channel of lake Huron.

On 30th August last, authority was given to expend the sum of $2,000 each for the construction of three wharfs at the end of C. K. and P. lines on this island.

Work was commenced at 'C' line on the 7th November and completed 29th March, and consisted of the construction of an approach, in shallow water, 300 feet, having a crib at outer end 32 by 50 feet. The depth of water at the outer end of the wharf will be 6 feet on bank of 22-foot channel.

In doing this work some 1,000 feet b.m. pine, 5,800 feet b.m. hemlock, 980 feet b.m. cedar, 1,620 feet b.m. ash, 78 loads of gravel, 40 loads of stone and 900 pounds of iron were used.

Work was commenced at 'K' line on the 22nd October, and completed 31st March, and consisted in the construction of a stone approach 200 feet long, with a crib at outer end 16 by 100 feet, having 4½ feet of water at the outer end.

In doing this work, some 1,651 pounds of iron, 1,536 feet b.m. birch and spruce, 2,144 feet b.m. hemlock, 362 feet b.m. cedar, and 3,240 feet b.m. ballast floor poles were used.

Work was commenced at 'P' line on the 29th October and completed 31st March, and consisted in the construction of a stone approach 200 feet long, having a crib at outer end 100 by 16 feet. Depth of water at outer end of crib is 4½ feet.

In doing this work, some 32,196 feet b.m. hemlock, ash and tamarac, and 2,726 pounds of iron were used.

Total expenditure for fiscal year 1912-13:—

| | |
|---|---|
| *Re* 'C' line— | |
| Labour and superintendence | $1,228 51 |
| Materials | 712 38 |
| | $1,940 89 |
| *Re* 'K' line— | |
| Labour and superintendence | $1,483 75 |
| Materials | 229 51 |
| | $1,713 26 |
| *Re* 'P' line— | |
| Labour and superintendence | $1,946 17 |
| Materials | 304 89 |
| | $2,251 06 |

ST. WILLIAMS.

St. Williams is an incorporated village, situated on the north shore of lake Erie, on a branch line of the Grand Trunk railway, sixteen miles southwest of Simcoe, and

three and a half miles northeast of Port Rowan. Population, about 350. It is a favourite summer resort, and adjacent to the celebrated hunting and fishing grounds of Long Point.

At the last session of Parliament, a sum of $2,600 was voted for the construction of a wharf, and on April 10, 1912, authority was received to proceed with this work by day labour.

Work was commenced on the 9th May, 1912, and completed on the 14th March, 1913.

In the execution of the above work 856 pounds of iron, 7,592 feet b.m. of white oak, 8,300 feet b.m. of pine, 109 oak piles, 35 cords of stone, 55 cubic yards of gravel, and 150 barrels of cement were used.

This work presents an excellent appearance, and, it is expected, will prove of great assistance to fishermen in the vicinity.

The total expenditure for the fiscal year, 1912-13, is $2,510.62.

### SARNIA.

Sarnia is a thriving town, situated on the east bank of the St. Clair river, in the county of Lambton, about three miles south of lake Huron, and fifty-nine miles, by rail, from the city of London. It is served by both the Grand Trunk and Père Marquette railways. Population, about 10,000. It is a port of call for a large number of vessels. It is an important shipping point and a port of entry. Many large industries are located at this point, and the revenue is increasing steadily. Maximum draught entering this port is 21 feet.

#### *Dredging.*

During the past season, the dredging consisted in the work done by the Government dredge *Ontario* at the following locations, viz.:—

(a.) Dredging a channel to the outer end of a pier belonging to the Cleveland and Sarnia Saw-mills Co., a cut 18 feet deep below L.W.L., averaging 20 feet wide at base and 200 feet long, was made between 13th and 15th August.

(b.) Dredging a channel fronting the new pier, constructed for the Imperial Oil Company, Ltd., between June 29 and August 12. An area 675 feet long, 80 feet wide at base and to a depth of 20 feet below L.W.L. was dredged.

In the former location, 1,200 cubic yards, scow measurement, of sand were removed.

In the latter location, 14,650 cubic yards, scow measurement, of gravel and sand were removed. In addition, considerable time was spent in removing two old wrecks which lay within what might be termed the harbour line.

The time spent on the removal of these wrecks was not charged against the Imperial Oil Company, but all other work was done at the request of the said company, who agreed to pay $100 per day, including Sundays, for the dredging plant.

### SAUGEEN RIVER.

Saugeen river empties into lake Huron at a point about thirty-two miles from Walkerton, and about forty-three miles from Sarnia. At the mouth of the river is situated the thriving town of Southampton. The harbour at the mouth of the river is utilized by a large number of deep draught fishing tugs. It is an important harbour of refuge. Maximum draught of vessels, about 10 feet. A large quantity of fish is shipped annually from this point; value of catch last year amounted to, approximately, $38,000.

At the last session of Parliament, a sum of $1,000 was voted for repairs to north and south piers, and on April 10, 1912, authority was received to expend this grant.

On June 21, 1912, this amount was supplemented by an additional $200, and by $150 more on October 7, 1912, thus making the total amount available, $1,350.

Operations were commenced on May 1 and continued until October 26, 1912. The work performed consisted of the renewing of several face timbers and about 100 square feet of decking in north pier; of driving 20 feet of sheet piling; renewing 60 feet of waling, and placing 200 cubic yards of rock filling, and renewing 420 square feet of decking on the south pier and landing dock.

The work left these piers in fairly good condition, but during a heavy freshet this spring the south pier suffered considerable damage. The extent of such damage has not yet been ascertained, owing to the high level of the water.

In the execution of the above work, 16,658 feet b.m. of hemlock and beech, 3,436 feet b.m. of white oak, 17½ cords of stone and 1,707 pounds of iron were used.

The total expenditure for the fiscal year, 1912-13, is $1,287.56.

### SAULT STE. MARIE.

Sault Ste. Marie, district of Algoma, is situated at the head of St. Mary's river, which connects lake Superior with lake Huron. Population, 18,000. It is on the main commercial route from the Great West to the seaboard. The tonnage passing through the canals at this place is enormous, being five times greater than that of the Suez Canal, which is open to the commerce of the world.

On 9th April last, authority was given to expend the sum of $8,000 for the completion of the extension to the Government wharf, the contract for which was awarded to Mr. J. F. Boyd.

This work had been completed during the preceding fiscal year.

On 9th April last, authority was given to expend the sum of $32,000 in improving the Plummer wharf, which forms the approach to the Government wharf, and instructions were issued to prepare contract, plans and specifications.

These were duly prepared and the contract awarded to Mr. John O'Boyle for the sum of $24,480.

This work was commenced 16th September and closed for the season 30th December, resuming work again early in February, and is still in progress.

The work done consists in tearing down the old superstructure to a level of about 20 inches below low-water level, the moulding of concrete blocks, and the replacing of a large portion of the stone filling.

On 17th May last, authority was given to expend the sum of $275 in repairs to the decking of the approach.

#### *Dredging.*

On 27th June last, authority was given to have certain dredging performed for which a contract had been awarded to the 'Soo' Dredging Co., at the following rates per cubic yard, place measurement: Class 'A,' $3.47; class 'B,' 92 cents.

This work was commenced 2nd July and closed for the season 2nd December. Some 16,637 cubic yards 'B,' and 37,431 cubic yards 'A,' were removed.

On 22nd August last, authority was given to have the Soo Dredging Co. remove 6,000 cubic yards, place measurement, at 16 cents per cubic yard for mud and 75 cents per cubic yard for hard-pan and boulders, scow measurement, at the Commercial dock of the Steel Corporation.

This work was carried on from the 9th to 19th September, and from the 29th October to the 1st November, and some 8,004 cubic yards, scow measurement, were removed, of mud.

On 19th September last, authority was given to dredge a slip at the new Ontario dock, 75 by 520 feet, and at the Ferry dock, 60 by 300 feet, the work to be performed by the 'Soo' Dredging Co., at their contract rates.

Total expenditure for fiscal year, 1912-13, is $163,137.19.

SEAGULL.

Seagull, or Sailor's Encampment, district of Algoma, is situated on the southwest shore of St. Joseph's island, in St. Mary's river, about four miles from Richard's Landing. It is a farming community and very well settled and, formerly, was a well-known point, as it was the head of navigation for sailing craft, being just opposite the Neebish rapids.

On 9th April last, authority was given to expend the sum of $9,500 for the construction of wharf, and instructions were issued to prepare contract, plans and specifications for same.

These were duly prepared and forwarded to Ottawa, but on 30th August last, instructions were issued to take no further action in this matter, but to expend the sum of $1,500 towards completing the wharf already erected at this place, by day labour.

Work was commenced 9th January and completed 31st March, and consisted in the construction of a warehouse, 18 by 40 feet, on cribwork foundation, alongside the existing wharf.

In doing this work, some 748 pounds of iron, 6,495 feet b.m. hemlock, 1,875 feet b.m. pine, 1,325 feet b.m. cedar, and 4,760 feet b.m. hemlock, were used.

Total expenditure for fiscal year, 1912-13, is $1,489.27.

SEVERN BRIDGE.

Severn Bridge, Simcoe county, is situated on the Severn river about three and a half miles from Washago. The principal business is lumbering, there being two large saw-mills in operation. It is a station on the G. T. Ry. and C. N. Ry.

On 9th April last, authority was given to expend the sum of $1,800 in the construction of a wharf by day labour.

Work was commenced 5th October and was completed in March, and consisted in the construction of a pile-work wharf, 96 feet in length by 12 feet in width.

In doing this work, some 95 tamarac piles, 137 feet b.m. pine, 1,788 feet b.m. hemlock, 60 pounds of iron, and 75 cedar posts, were used.

Total expenditure for fiscal year, 1912-13, is $1,800.78.

SEVERN RIVER.

Severn river, county of Ontario, flows from the northerly extremity of lake Couchiching to Georgian bay.

The department maintains two stop-log dams on this river at Washago.

In October last, certain work was performed in the removal of obstructions from the west branch of the river, and in July last, a canted log was removed from the stop-log dam.

On 9th April last, authority was given to expend the sum of $900 in repairs to the stop-log dams by day labour, but it was decided to make a change, and an entirely new design submitted in the way of the construction of two new stop-log dams and the enlarging of the outlets.

Total expenditure for fiscal year, 1912-13, is $61.35.

SHEGUINDAH.

Sheguindah, district of Algoma, is situated on the north shore of Manitoulin island, at the entrance to Haywood sound, and at the west end of Shequindah bay. The village is six miles south of Little Current, and sixteen miles north of Manitowaning.

On 9th April last, authority was given to expend the sum of $4,000 in wharf repairs by day labour.

Work was commenced 1st August and completed 22nd November, and consisted in close-piling along the south face of the wharf for a length of 150 feet; renewing the decking, cappings and walings where necessary; filling in at the rear of the piling with stone for a width of 12 feet, and repairing and painting the warehouse.

In doing this work, some 5,000 feet b.m. hemlock, 9,000 feet b.m. pine, 3,774 pounds of iron, 4,820 feet b.m. cedar piles, 2,000 feet b.m. tamarac and 2,000 feet b.m. cedar were used.

Total expenditure for fiscal year, 1912-13, is $3,996.22.

### SILVER CENTRE.

Silver Centre is a mining district in the township of South Lorrain, on the west shore of lake Timiskaming, twenty-two miles south of Haileybury, district of Nipissing. The traffic figures during season 1912, show freight shipped at wharf, 441 tons, and freight received, 911 tons.

At its last session, Parliament appropriated $2,500 towards raising and improving the public wharf built since 1908, so as to bring it up to the standard elevation necessitated by the development of Timiskaming storage basin.

The pile-work approach and south portion of landing head of wharf were raised three feet and piles were driven, braced, capped and flooring placed for freight shed extension. Work started August 15 and was discontinued November 7 on account of lack of funds. Materials were procured and are on hand for raising the balance of landing head, and building new warehouse and handrails. This work will be performed during the coming season along with raising of stone approach and placing of heavy ice booms.

Expenditure to March 31, $2,581.05.

### SOUTHAMPTON (CHANTRY ISLAND.)

Southampton is a prosperous town situated at the mouth of the Saugeen river, in the county of Bruce, and on the easterly shore of lake Huron, thirty-two miles from Walkerton, the county town. It is the terminus of the Grand Trunk Railway, and a harbour of refuge. Population, about 2,500. A large quantity of lumber, ties, cedar posts and firewood is handled over the town dock, onto which a line of the Grand Trunk Railway extends. Maximum draught, about 12 feet.

At the last session of Parliament, the sum of $1,750 was voted for repairs and renewals to the long breakwaters that extend between the mainland and Chantry island, as also slight repairs required to the extensive landing pier, and on the 10th April, 1912, authority was received to expend the grant.

Operations were commenced on May 1 and ceased on October 11 last. The work performed consisted of the renewal of a section, 132 feet long, 14 feet wide and 9 feet high, on the south side of the Chantry island breakwaters. In addition, some minor repairs were made to the landing dock, consisting principally of the repairing of a slight erosion, with heavy riprap.

In the execution of the above work, 33,151 feet b.m. of hemlock, and 1,952 pounds of iron were used.

Total expenditure for the fiscal year, 1912-13, is $1,749.46.

### SOUTH LANCASTER.

South Lancaster, a post settlement in Glengarry county, one mile from Lancaster, on the G T. Ry. It contains two stores, one hotel, one tannery and one sawmill. Population, 150.

Few minor repairs only were performed this year, to the amount of $27, which left the wharf in good condition.

*Dredging.*

South Lancaster is a post settlement in Glengarry county, one mile south of Lancaster station on the G. T. Ry., fifty-four miles west of Montreal. It contains two stores, one hotel, one tannery and one saw-mill. Lancaster has a population of about 800.

From June 11 to October 11, Messrs. Fallon Bros.' dredge *No. 3* worked under contract at South Lancaster, deepening to 10 feet, and 120 feet wide, a channel leading to the Government wharf. Some 44,980 cubic yards, scow measurement, or 38,796 yards, place (reduced to 38,634 yards on account of dredging below grade), of clay and sand were removed and dumped one mile away. Width of cuts, 17 to 30 feet; depth, 2 to 8 feet; distance advanced, 8,165 lineal feet; hours of actual dredging, 873.

Contract price, 17 cents a cubic yard, place measurement, totalling $6,567.78.

SOUTH NATION RIVER (CLAIRMONT FERRY).

Clairmont Ferry, South Nation river, Russell county, is situated eight miles below Casselman.

A landslide occurred at the latter place in 1910. Fifty per cent of the obstruction was removed in 1910; 30 per cent was removed in 1911, and work could not then be finished on account of lack of sufficient funds. Work was completed in 1912, September 11 to November 30, removing some 2,765 cubic yards of clay, to enlarge the channel at low water so that boats can get through easily and to give a better section for flood discharge to that portion of the river.

Expenditure to March 31, $1,894.29.

SOUTH PORCUPINE.

South Porcupine, a settlement in Nipissing district, is located at the southerly end of Porcupine lake, opposite Porcupine.

At its last session, Parliament appropriated $3,700 for the construction of two public wharfs for the ferry service on Porcupine lake.

Construction of wharf was begun by day labour July 16 and completed August 24.

The structure is of pile-work, and extends out 175 feet, drawing some 4 feet of water at the landing face, formed of a landing head, 32 by 40 feet, with approach 12 feet wide built to a height of 4½ feet above L.W.L., at the foot of Golden Avenue.

Expenditure to March 31, $1,341.91.

The other ferry wharf was built at Porcupine.

SOUTH RIVER.

The departmental dredge *Mattawa* worked at the South river channel, lake Nipissing (May 20 to August 3), making two cuts at entrance from lake aggregating 3,992 lineal feet, and two cuts up the river from the mouth aggregating 3,210 lineal feet, 30 feet wide, to facilitate navigation at low water.

Some 40,310 cubic yards, plus 5 per cent over-load clayey sand and silt, scow measure (35,280 yards place measure), from examination in January, 1913, were removed to grade depth of 14 feet, and spoiled from three-quarters to two miles from entrance.

SPRAGGE.

Spragge Harbour, district of Algoma, is located on the north shore of lake Huron, at a point where the Serpent river empties. The Soo branch of the C.P. Ry. passes through about one quarter of a mile to the north of the harbour. It is ninety-six miles east of Sault Ste. Marie, and eighty-six miles west of Sudbury. Messrs. Waldie Bros. have large lumber mills at this place, with an annual output of 25,000,000 feet. It is a port of call for the steamers of the Northern Navigation Co.

*Dredging.*

On April 19 last, authority was given to have the departmental dredge *Industry* remove some 83,000 cubic yards.

Work was commenced 24th July and completed 5th September, and consisted in the improvement of the approaches to the wharf and deepening the turning basin in front thereof, also making a cut at the west end of tramway No. 1.

In doing this work, some 99,393 cubic yards, scow measurement, were removed; the 16,393 cubic yards additional being at end of tramway.

STURGEON FALLS.

Sturgeon Falls, a town in Nipissing district, with a population of 2,200, is located on the main line of the C. P. Ry. twenty-four miles west of North Bay, on Sturgeon river, five miles from its mouth, on Lake Nipissing.

The public wharf, built in 1903-4, had to be raised a few feet to handle traffic at proposed R.W.S., elevation 643, as well as undergo certain repairs. Work was commenced in 1911 and completed during the season 1912.

Repairs were made to wharf, May 17 to June 11, consisting of raising warehouse 2 feet to level of wharf flooring, which had been raised previously. The roadway landing to wharf was graded to accommodate higher level.

Later repairs were made, November 13 to 20. The road for its entire length of 225 feet was repaired with material taken from excavation of side ditches. A 2-inch plank sheathing, a continuation of the rear wall of shed, 3 feet deep by 39 feet long, was placed to original ground level, to prevent washing away of fill in rear of shed.

Expenditure to March 31, $533.98.

The balance of the vote for 1912-13 was to be spent in making a start toward an extension to wharf, in connection with proposed railway spur to harbour. Up to the present, the prospective traffic did not warrant the railway company in building the spur, and the extension, therefore, has not been proceeded with.

STURGEON RIVER.

The departmental dredge *Mattawa* worked at the mouth of the Sturgeon river, lake Nipissing (September 2 to November 9), making two cuts aggregating 4,781 lineal feet, 30 feet wide, along east bank of channel, in order to give a better entrance to dredged channel from lake Nipissing, and make passage of boats safer in rough weather.

A total of 36,075 cubic yards, plus 5 per cent over-load clayey sand and quicksand, scow measure (32,693 yards, place measure), from examination in January, 1913, were removed to a grade depth of 15 feet and spoiled in deep water one and a half miles from cut.

SUMMERSTOWN.

Summerstown, a post village, in Glengarry county, on lake St. Francis, St. Lawrence river, three miles from Summerstown station, on the G. T. Ry., eight miles east of Cornwall and six miles west of Lancaster. In the vicinity are the summer resorts of Stanley and Hamilton's Islands. It has two stores, besides telegraph and telephone offices. Population, 150.

The Summerstown public wharf, built in 1886-7, consists of: (1.) A close-faced head-block, 120 by 20 feet, standing 15 feet high in 9 feet of water at low level; (2.) A stone approach, 90½ by 20½ feet, connecting with head-block by a 22-foot span; (3.) A shed, 24 feet 4 inches by 30 feet, along western side of stone approach; (4.) A cattle yard near shed.

During the months of July and August, general emergency repairs were performed. They consisted in reflooring, generally completing the freight shed, and renewing a span of 22 by 20 feet between the stone approach and the head-block.

This work was done by day labour.

Expenditure, $199.96.

*Dredging.*

Summerstown, a post village in Glengarry county, on lake St. Francis, St. Lawrence river, three miles from Summerstown station on the G. T. Ry., eight miles east of Cornwall and six miles west of Lancaster. In the vicinity are the summer resorts of Stanley and Hamilton's islands. It has two stores besides telegraph and telephone offices. Population, 150.

From May 21 to July 31, departmental dredge *Challenge* worked at Summerstown, deepening to 8 feet below zero gauge, and 150 feet wide, the upstream or western channel leading to the Government wharf.

Some 10,098 cubic yards of clay and hard-pan were removed and dumped one and a half miles away. Width of cuts, 6 to 25 feet; depth, ½ to 6 feet; distance advanced, 6,096 lineal feet; hours of actual dredging, 410½.

SUNBRIDGE.

Sunbridge, district of Parry Sound, is a village of 500 inhabitants, situated on Stoney lake, and it is a station on the G. T. Ry. A barrel factory and a saw-mill are located at this place.

On 9th April last, authority was given to expend the sum of $2,500 in the construction of a wharf by day labour.

Work was commenced 15th May and completed 24th July. The work consisted in the construction of a wharf, 72 feet long by 16 feet wide, of pile-work, with a stone approach 420 feet long by 14 feet wide on top, also repairing the pile dam at the outlet of Stoney lake by filling in at the rear of same with brush and gravel, but leaving the fish run open.

In doing this work, some 65 piles 696 pounds of iron, 144 feet b.m. spruce, 4,373 feet b.m. pine, 421 feet b.m. birch, 2,320 feet b.m. hemlock, 1,336 cubic yards stone, and for dam, 100 cubic yards gravel and rock were used.

Total expenditure for fiscal year 1912-13 is $2,485.28.

SYDENHAM AND CHENAL ECARTE RIVERS.

Sydenham river discharges into the Chenal Ecarte river about two and a half miles west of the town of Wallaceburg. From Wallaceburg down it is a large, deep, navigable stream; above the town it divides into two branches, north to Wilkesport, fourteen miles, and east to Dresden, fifteen miles.

Chenal Ecarte river takes its rise in the river St. Clair and flows in a tortuous route in a southeasterly direction to within a short distance of Wallaceburg, where it turns in a southerly direction and runs into lake St. Clair. The river is now sufficiently wide and deep to permit canal-sized boats, with a draught of 19 feet, to proceed from St. Clair river to the town of Wallaceburg. The rivers are used particularly for the importation of beets, raw sugar and oil, to the beet and sugar factory and oil refinery at Wallaceburg, as also of coal, wood, building materials, etc. The amount of imports is rapidly increasing and figures as an important item in the large customs revenue collected at Wallaceburg, and which, during the season of 1910, amounted to $231,957.64. By the improvement of the Chenal Ecarte river between Wallaceburg and the St. Clair river it is now evident that not only the amount of material imported will be largely increased, but that a large trade direct with the west, over this route, will be established.

As the town of Wallaceburg is rapidly increasing in population and importance, navigation on these rivers is increasing accordingly. Population of Wallaceburg, 4,000. It is on the line of the Pére Marquette Ry., while it is the terminus of the Chatham, Wallaceburg and Lake Erie Ry.; there are several large and important industries at this point, including sugar factory, glass works, oil refinery, etc., employing approximately 2,100 hands.

Other new industries are now under construction.

Between the 29th August and 4th September, 1912, 1,900 cubic yards of silt and sand were removed in deepening of slip owned by the Dominion Sugar Company, at Wallaceburg.

There were 3,734 cubic yards, place measurement, of silt, sand and clay, removed by the Chatham Dredging Co. in deepening the approaches to seven landing places on both the east and north branches of this river, in order to provide a safe depth of navigation for boats and scows drawing not more than three feet of water.

The work extended from September 7 to 20, 1912, and the cost of operations was as follows: 3,734 cubic yards, place measurement, silt, sand and clay, at 25 cents, $933.50.

### TELEGRAPH AND NIGGER ISLANDS.

Nigger island is situated on the Bay of Quinté, about three miles from Trenton. A lighthouse is located about 1,000 feet southwest of the island; the channel is immediately south of the lighthouse and is narrow and crooked, with a rocky bottom. There is a shoal spot a short distance from the island which mariners claim is an obstruction to navigation.

Telegraph island is situated in the Bay of Quinté, about thirteen and a half miles east of Belleville, and is a small rocky island on which a lighthouse is located. The channel is immediately to the north of the lighthouse and is comparatively narrow, with a rocky bottom.

#### *Dredging.*

On 26th August last, authority was given to perform certain dredging for which a contract had been awarded to the R. Weddell Co., at $4.50 per cubic yard, place measurement, for class A.

Work was commenced at Nigger island on the 2nd October and closed on the 12th October; and at Telegraph island it was commenced 17th October and closed 30th November, and consisted in removing some 4,728 cubic yards, scow measurement, of rock that had been drilled and blasted last season and on which a progress estimate of 2,000 cubic yards, place measurement, had been sent in, and when the expansion factor has been determined at Telegraph island, the final return for this work will be sent in.

The work at Telegraph island consisted in dredging an extension easterly of the existing channel, for a distance of 600 feet by 115 feet in width, to a depth of 15 feet below zero, and in doing this work, some 6,247 cubic yards of rock were removed.

Total expenditure for fiscal year 1912-13 is $37,367.40.

### THESSALON.

Thessalon, district of Algoma, is situated on the north shore of the north channel of lake Huron. It is an important town containing several industries and several saw-mills. Large quantities of lumber are shipped from this place and it is a regular port of call for all regular liners. Population, about 1,400.

On 9th April last, authority was given for the expenditure of $16,400 for the completion of the breakwater for which a contract had been awarded on 23rd November, 1911, to Mr. David Porter, of Wiarton, for the sum of $14,900.

Work was resumed on the 1st April and completed 8th May, and consisted in the construction of a breakwater, composed of rock-filled wooden cribwork, located between three small rocky islands, the middle one dividing the breakwater into two sections of 375 feet and 310 feet each, and having a width of 16 feet, built to a height of 6 feet above water level.

Total expenditure for fiscal year 1912-13 is $11,425.58.

THORNBURY.

Thornbury, county of Grey, is an incorporated town of some 1,200 inhabitants, situated at the mouth of the Beaver river, which empties into Georgian Bay. It is on the Meaford branch of the G. T. Ry., eight miles from Meaford, and fourteen miles from Collingwood.

On 9th April last, authority was given to expend the sum of $29,000 in harbour improvements, for which a contract had been awarded to Messrs. Cowan and Whitney for the sum of $23,985; the contract was subsequently transferred to the R. Weddell Co.

Work was resumed 1st April and completed 15th July, and consisted in the construction of a pier extending southerly from the present revetment wall in harbour for a length of 200 feet and a width of 16 feet, having cribwork substructure and concrete superstructure, also the construction of a breakwater of similar design, 100 feet long by 24 feet wide, to protect the entrance to harbour.

On 13th June last, authority was given to close the opening between the end of the old sheet-piling and the present breakwater for a length of about 25 feet.

This work was duly performed by day labour, and consisted of close sheet-piling, protected by riprap.

*Dredging.*

Dredging was performed by the R. Weddell Co. at this place at $15 per hour, and consisted in the removal of the 'L' from the inner breakwater and cleaning up the channel inside the new breakwater.

Gravel was placed in the approach to the cribwork breakwater on the southeast side of the harbour, where sand had been washed out by the spring freshets.

Total expenditure for fiscal year 1912-13 is $9,260.10, and $951 for dredging.

TOBERMORY.

Tobermory, county of Bruce, is situated on the northwest extremity of the Saugeen peninsula, and is perfectly sheltered from all winds. It consists of the east and southwest arms, the latter extending from light-house point W. x S. ½ S., 900 yards, with an average breadth of 100 yards. The low limestone shore sinks down almost perpendicularly to 7 or 8 fathoms, which depth, over soft mud, will be found all over this arm, excepting near the bottom, where a muddy flat extends 120 yards to a depth of 18 feet. This harbour is too narrow to permit vessels to lie at single anchor and they are compelled to make fast to the shore, and to protect their sides from chafing against the rock, the Government has constructed glance booms for the vessels to lie alongside.

On August 21st last, authority was given to expend the sum of $75 in renewing eye bolts and chains of the glance booms where required, by day labour, and in doing same some 10 eye-bolts and washers, 16 shackles and 1,197 pounds of chain were used.

Total expenditure for fiscal year 1912-13 is $77.25.

TORONTO.

Toronto, York county, is a city of some 400,000 inhabitants, situated on the north shore of lake Ontario. The harbour is formed of a circular basin, called Toronto bay,

1½ miles in diameter, which is separated from the lake by a large island, formerly a peninsula, about six miles long, making a safe, well sheltered harbour for a number of vessels. There are at present three entrances to this harbour, viz., the eastern, the western and the new western.

On 9th April last, authority was given to expend the sum of $195,000 in harbour improvements.

On 8th July, 1909, authority was given to have ferry cribs constructed in each pier of the new channel for the sum of $9,000.

On 21st September, 1910, authority was given to provide a small boat landing in each pier for $500.

On 20th November, 1911, authority was given to have waling placed on the channel sides of the piers for $4,230.

These works, as well as the new channel itself, have been practically completed. The channel is about 400 feet in width, and a depth of 18 feet of water below zero of harbour commissioner's gauge is provided, and is formed by two parallel piers, the south one of which is 2,535 feet in length, the easterly 2,035 feet of which is 20 feet in width, and the westerly 500 feet is 30 feet in width. The north pier is 2,235 feet in length by 20 feet in width. Range lights have been established on the south pier by the Department of Marine and Fisheries.

On 9th April last, authority was given to expend the sum of $31,000 in placing stone in the island breakwater, where required, and the reconstruction, in concrete, of a portion of the northerly end of the east pier of the eastern channel, by day labour.

This work was commenced 6th May and was completed 16th December, and consisted in the renewal, in concrete, of 300 feet of the northerly end of the east pier, having a width of 21 feet, and the placing of stone in the island breakwater, where required.

In doing this work, some 2,541 tons stone, 3,074 pounds iron, 15,641 feet b.m. pine, 2,160 feet b.m. hemlock, 2,655 barrels of cement, and 182 feet b.m. oak were used.

On 19th April, 1912, authority was given to extend the contract with the R. Weddell Co. for the construction of a revetment wall for a length of 800 feet on the north side of the new western channel and for a length of 1,000 feet on the south side of same, and for the removal of 160,000 cubic yards of dredging.

This work was commenced in May last and closed for the season on the 31st December, resuming again on the 14th April, and, to date, consisted in the placing of 746 feet of cribwork in position on the north side of the new channel, also the dredging of crib seats south of the new channel. The dredging is about completed.

*Dredging.*

On 26th April last, authority was given to perform certain dredging at Hanlan's Point, for which a contract had been awarded to the General Construction and Dredging Co., at 15 cents per cubic yard, place measurement.

This work was commenced 12th May and completed 7th September, and consisted in dredging a channel, approximately 1,750 feet long by 100 feet wide, and an approach to wharfs, 500 feet in length, having an average width of 250 feet, all to a depth of 10 feet below zero of harbour commissioner's gauge.

In doing this work, some 58,946 cubic yards, place measurement, were removed.

On 21st June last, authority was given to perform certain dredging at the eastern channel, for which a contract was awarded to the R. Weddell Co., at 17½ cents per cubic yard, scow measurement.

This work was commenced 26th June and closed for the season, owing to rough and unfavourable weather, on 10th November, and consisted in deepening the approaches to the eastern channel to 23 feet below zero of harbour commissioner's gauge, and having the sides of the cut splayed from a width of 400 feet to 1,000 feet.

In doing this work, some 135,806 cubic yards, scow measurement, were removed.

Total expenditure for fiscal year 1912-13 is $75,808.56, and $33,567.65 for dredging.

### TRENTON.

Trenton, county of Hastings, is situated on the north shore of the Bay of Quinte, at the mouth of the Trent river, twelve miles west of Belleville. Population, 4,300. It is quite an important commercial and manufacturing centre; it is the terminus of the Trent Valley canal, and is a station on the main line of the G. T. Ry., Central Ontario Ry., C. N. Ry., and the Toronto-Ottawa line of the C. P. Ry. It is a regular port of call for all regular liners.

#### *Dredging.*

On 30th May last, authority was given to perform certain dredging, for which a contract was awarded to Mr. J. E. Russell, of Toronto, at the following rates, place measurement: Class 'A,' $3.30 per cubic yard.

The work of drilling was commenced 16th November and dredging on the 28th November, and closed for the season on the 15th December. This work is the removal of a hog's back, off Polley's wharf.

Some 2,342 cubic yards of rock were removed.

Total expenditure for fiscal year 1912-13 is $7,787.21.

### TWO AND SEVEN MILE NARROWS.

The work embraced under this heading consisted in the construction of glance booms at the Two and Seven Mile narrows, in the regular inside channel from Penetanguishene to Parry Sound. These narrows are located within ten miles of Parry Sound.

On 11th April last, authority was given to expend the sum of $1,043.24 in the construction of glance booms at these places by day labour.

Work was commenced 13th April and completed 15th June by the crew of the *Cingalee*, and consisted in the construction of and placing 350 feet on the south side and 150 feet on the north side at Seven Mile narrows, and 400 feet on the south side and 200 feet on the north side at the Two mile narrows.

In addition to the timber previously purchased, some 812 feet b.m. pine, and 3,818 pounds of iron were used.

Total expenditure for fiscal year 1912-13 is $1,042.90.

### VICTORIA HARBOUR.

Victoria harbour (Port McNicoll), county of Simcoe, is situated on an inlet of the Georgian bay at the easterly end thereof, and is a well-sheltered harbour, easily approached from the open lake. Population, 1,500. There are extensive saw-mills, and it is the principal terminal of the C. P. Ry. on the Georgian bay, and they have constructed a 4-million bushel grain elevator and are constructing large concrete wharfs and other buildings, such as freight and flour sheds, etc.

#### *Dredging.*

On 8th May last, authority was given to have the Canadian Dredge and Construction Co. resume work at this place, for which their contract prices are: Rock, $2.25; and other materials, 12½ cents per cubic yard, scow measurement.

Work was resumed 3rd May, and continued until the 11th December, when it was ordered to be stopped.

The work done this season consisted in the removal of the areas above grade, viz., 25 feet below elevation 580. The work is nearly completed.

During the season, the dredges removed 644,620 cubic yards, class 'B,' and 32,761 cubic yards, class 'A.'

On 11th September last, authority was given to remove 55,000 cubic yards, place measurement, at the return wharf on the east side of the slip and on 25th May last, authority was given to overcast 10,300 cubic yards, place measurement, in the extension south of the slip. These works were duly performed.

Total expenditure for fiscal year 1912-13 is $166,988.06.

### WENDOVER.

Wendover is a post settlement in Prescott county, on the south shore of the Ottawa river, thirty-one and a half miles below Ottawa; is also a station on the C. N. Ry., twenty-four miles from Hawkesbury.

On April 15, a saw-cut in front of wharf was made so as to make a ready channel to avoid jamming of ice. Work was done at a cost of $16.50.

The stone approach, which is 100 feet long, was raised about 3 feet with 70 cubic yards of stones, 300 cubic yards of earth and 60 cubic yards of gravel. This work started on October 7 and was finished on December 11; it had been discontinued for many days on account of bad weather.

Expenditure to March 31, $500.38.

### WHEATLEY.

Wheatley is a village, situated on the north shore of lake Erie, and on the line of the Père Marquette railway, about thirty miles southwest of Chatham, and forty-four miles by rail from Windsor. Population, about 1,000.

At the last two sessions of Parliament, the sum of $10,000 was voted towards the construction of a landing dock, and on the 29th September, 1911, a contract was awarded to Mr. William Bermingham, of Chatham, Ontario, for the sum of $36,000. On the 22nd April, 1912, instructions were received to proceed with the work.

On the 14th June, operations were commenced, and structure was completed on 17th December, 1912. It consists of a 50-foot stone approach at shore line; a 600-foot trestle 16 feet wide, reaching out to about 11 feet 6 inches of water; to which is added 200 feet of close-faced timber cribwork, 18 feet wide, filled with stone ballast and extended to a depth of 14 feet of water, together with a 200-foot 'L' of solid cribwork to the westward.

The work presents an excellent appearance, and has already proved of considerable benefit to the residents of Pelee island and the local fishermen.

Total expenditure for the fiscal year 1912-13 is $36,467.31.

### WHITBY.

Whitby, county of Ontario, is situated on the north shore of lake Ontario, thirty miles east of Toronto. Population, 3,300.

On 9th April last, authority was given to expend the sum of $20,000 towards the construction of harbour improvements at this place, and instructions were issued to prepare contract, plans and specifications for same.

These were duly prepared and forwarded to Ottawa, and the work awarded to Messrs. Whitney and Code, of Brockville, for the sum of $20,000.

Up to date, this work has not been commenced.

The proposed work consists in the construction of a concrete esplanade wall 1,259 feet long by 10 feet wide, built on the existing cribwork, from one foot below low water; also the filling in at the rear thereof.

There has been no expenditure.

WINDERMERE.

Windermere, district of Muskoka, is situated on the southeasterly shore of lake Rosseau. It is a very popular summer resort, and is a port of call for all vessels plying on the waters of the Muskoka lakes.

On 9th April last, authority was given to expend the sum of $5,000 for the construction of a wharf by day labour.

Work was commenced 9th May and closed for the season in November last, and consisted in the construction of a wharf having cribwork substructure and concrete superstructure, placed on a pole mattress, and being 120 feet long by 14 feet wide, and having a stone approach 40 feet wide on top and 45 feet long. This work is completed with the exception of the mass concrete for the superstructure.

In doing this work, some 3,838 feet b.m. hemlock, 700 cubic yards sand and gravel, 900 cubic yards stone, 212 poles and 12,611 pounds of iron have been used.

Total expenditure for fiscal year 1912-13 is $4,891.54.

WINDSOR.

The city of Windsor is situated on the Detroit river in the county of Essex, and is a terminus, in Canada, of the Grand Trunk, Canadian Pacific, Michigan Central and Père Marquette railways. It is a thriving and prosperous city, with a population of about 20,000. It is a very important port of entry, the customs duties collected in the city, together with the adjoining town of Walkerville, amounting to approximately $3,890,000 for the fiscal year 1912-13. Numerous car ferries are operated on this river in connection with the different railroads, and the water front is very active.

At the last session of Parliament, the sum of $50,000 was voted for the construction of a public landing pier, and other improvements, and on the 25th January, 1913, the contract was awarded to Mr. A. E. Ponsford, of St. Thomas, at schedule prices, aggregating approximately $47,809.41.

Up to the end of the fiscal year, the contractor had assembled considerable material on the site of the work, with a view to commencing active operations as soon as weather would permit.

An Order in Council was passed on the 19th August last granting authority to lease from the Grand Trunk Railway Company, lot No. 3 on their water front, for the purpose of using said slip for Government floating plant.

A boat-house, 48 by 24 feet in size, was constructed for the use of the Government launch *Nokomis*.

Total expenditure for the fiscal year 1912-13 is $1,105.72.

*Dredging.*

During the past season, the Government dredge *Ontario,* aided by the services of a diver, was employed between October 7 and October 26 in dredging a slip for the Government boat-house and floating plant.

A total of 5,050 cubic yards, scow measurement, of silt, clay, timber and other debris was removed, and, on the completion of the work done, the slip was 8 feet 3 inches deep below L.W.L for a width of 20 feet, and 13 feet deep below L.W.L. for a width of 50 feet.

The expenditure for the services of the diver was $285.22.

## PROVINCE OF MANITOBA.

### DELTA.

As the shore of lake Manitoba, at Delta, was being rapidly washed away by severe storms, it was deemed advisable to build a pile protecting work extending along the lake front on either side of a channel dredged in 1905, and extending up this channel on the west side. The work consists of two types, 'Y" and 'Z.' The former type consists of tamarac piles, 16 feet long, driven 5 feet 3 inches apart and planked horizontally with 3-inch British Columbia fir, and at the bottom a double thickness of 1-inch boards was driven to prevent scour. In front of these, groynes were built to prevent the racing of the waves. Type 'Z' consists of piles driven 5 feet 3 inches centres with 4 by 8 horizontal wales bolted to the piles, to act as guides for 4 by 12-inch sheet piles, 20 feet long, driven on the inside of the work.

The work was very much delayed by frequent storms, which caused considerable damage, and it was only when the work could be continued on the ice that satisfactory progress could be made.

A length of 472 feet of type 'Y' was built on the west side, and 39 piles of the same type on the east side. On the west side, 232 feet of type 'Z' was completed, and 42 piles on the west side and 16 piles on the east side of the same type were driven, or a total length of 704 feet completed, and piles driven for a length of 505 feet.

The expenditure to March 31, 1913, is $6,363.56.

### GIMLI.

As the present wharf at Gimli was found too short to afford sufficient dockage to the increasing trade, and sufficient protection from storms, it was decided to build an extension of 150 feet in direct alignment with the outer end of the pier, and 20 feet 4 inches wide.

The contract was let to Messrs. Buchanan and Fraser, of Winnipeg, for $9,910. The wharf consists of pile bents (4 piles to a bent) driven 5 feet 3 inches centres, the outside and end being protected by closely driven tamarac piles. The stringers, braces and planking were British Columbia fir, and the whole extension was filled with stone. The wharf was completed in July, 1912, at the contract price, with an extra of $76.25 for additional timber and iron bolts.

#### *Dredging.*

An extension of 150 feet was made at Gimli wharf in 1911-12, and it was necessary to dredge along the face of this extension, also dig a channel to deep water.

On July 29, P. W. dredge *No. 204* was towed to Gimli and started dredging on the 31st, and made a cut 80 feet wide and about 200 feet long on the south side of the wharf; then dredged a channel 160 feet long and 100 feet wide to deep water. Both of these cuts were dredged to 7½ feet below zero of the water gauge, or elevation 680·25. A total quantity of 8,278 cubic yards of sand and clay, scow measurement, was dredged, at a cost of $1,430.58, or 17½ cents per cubic yard, to which should be added 0·24 mills for dredge vessel repairs.

### LE PAS.

An examination was made in January, 1913, for the purpose of ascertaining the best site for a wharf at Le Pas, and the necessity of building the same.

The most favourable location is at the mouth of the Le Pas river, where it enters the Saskatchewan river, which at present is occupied by a small wharf owned by the Hudson Bay Company. This wharf is not able to take care of the requirements of the growing town. Le Pas has a population of 300, and is the headquarters of the Ross Navigation Company, and the Finger Lumber Company, the two companies owning 5 steamers, with little or no wharf accommodation.

It was recommended that a wharf be built to accommodate vessels at all stages of the water. It would be 200 feet long, 20 feet wide, and built parallel to Le Pas river, having an approach 140 feet long. The wharf would be of pile construction and cost $12,500 not including land.

It would also be necessary to dredge about 4,000 cubic yards of boulders and clay.

### MOSSY RIVER.

P. W. dredge *No. 203* sunk at her winter quarters between April 9 and 13. The work of raising and caulking began April 26, and dredging began May 14, near the head of School Section rapids, south of Seiffert's farm, that being the place where work was stopped the previous fall. The distance required to finish this cut was 1,375 feet. The width of all cuts made this season was 40 feet, and the depth sufficient to pass the dredge.

The next cut was around a stony point, length 1,148 feet. The dredge was then moved to the rapids below Seiffert's house; the cut here was 971 feet long and was made to the south and east of the islands. Below this, dredging was done at five other points. Total length of cuts 4,322 feet. The distance covered was 4·8 miles. The material removed amounted to 15,908 cubic yards, and consisted of clay, gravel, sand and boulders, at a cost of $1,860.08, or 11 cents per cubic yard. It was all cast to the sides. The dredging was completed August 27, when the dredge was sent to Snake island.

### PELICAN LAKE.

This wharf is situated at the north end of Pelican lake, near the sanitarium. There is little or no freight on the lake, but it is developing into a summer resort, and a number of motor boats are used for excursions, etc.

An appropriation of $3,500 was made for the purpose of building a wharf, 431 feet long and 12 feet wide, with an earth and rock approach. The wharf is of pile construction, three piles to a bent, and bents 12 feet centre to centre. On the outside and end, piles are driven to act as sheet piles and hold the stone filling. The flooring, stringers, caps, braces, etc., are all British Columbia fir.

Work was begun January 9 and finished March 15. It was not possible to finish the earth approach, as the appropriation had run out.

The expenditure was $3,492.12.

### RED RIVER.

Operations were continued on the construction of the protection work, at the new entrance channel, mouth of Red river, on June 18, and ceased September 30. On account of frequent storms during the summer, the work did not advance as rapidly as in the winter months. Owing to the unusual open fall, the ice was not sufficiently strong to resume work until early in January, and carried on until March 31. The work done was to extend in sections of different types to meet the changing conditions that exist through the construction of the work.

The protection work on the east side, which consists of two rows of piles driven parallel to the centre line of channel, six feet apart, and three feet centres longitudinally. On the inner row of piles, 8 by 10 wales were bolted on at the top and at water level, and used as guides for 4 by 12-inch by 24-foot sheet-piling of British

Columbia fir. Cross braces were bolted from the front to the back row. This type of protection was lighter than that put in last season, as the material dredged had made a bank of sand at the back, so ice could not ordinarily reach it.

For a distance of 500 feet, the old work, driven in 1911, was strengthened by driving intermediate piles in the inside row and bracing with 6 by 8-inch by 7-foot timber. Wales were bolted on, and 4 by 12-inch by 24-foot sheet-piles were driven and bolted with ¾-inch bolts to the wales.

On the west side of the channel, 155 feet of type 'A' was reconstructed, out farther a section of 538 feet of type 'B' was practically finished. The piles were all driven.

The total expenditure was $19,999.61.

*Dredging.*

The dredging at the lower entrance of St. Andrews lock was for the purpose of removing rock, which had been blasted during the winter of 1911-12, to make a channel 100 feet wide and down to elevation 671·00, St. Andrews datum, or 1 foot below the mitre sill of the lower lock gate, extending down stream from wing wall of the lock, 1,400 feet.

The work was done on the ice during the winter months, with no loss of time, except when it was extremely cold. As it was necessary to remove the rock as early as possible after the ice moved out, so as not to interfere with navigation, P. W. dredge *No. 204* was towed to Lockport, by tug *Lisgar,* April 30, and began dredging May 1 and worked until May 30, removing 7,120 cubic yards of rock, scow measurement, at a cost of $3,268.82 or 22¾ cents per cubic yard, adding 2¼ cents per cubic yard for dredge vessel repairs, making 25 cents per cubic yard.

P. W. dredge *No. 205,* with scows, was towed to Lockport by tug *Friday,* and commenced work May 1 and dredged until the 31st, when the boom and castings were broken by tug *Phyllis Williams* with barge in tow, colliding with dredge in passing out of the lock; the current was very strong and carried the barge across the front of the dredge. The dredge was towed to Sugar Point and Selkirk for repairs, returning to Lockport, June 14 and dredging until June 22, removing a total of 7,129 cubic yards of blasted rock, scow measurement, at a cost of $2,179.56, or 30½ cents per cubic yard, with an addition of 1½cents per cubic yard for dredge vessel repairs.

On May 14, P. W. dredge *No. 202* was towed to Lockport by tug *Lisgar* and commenced dredging on the 17th and worked continuously until July 31, removing 5,387 cubic yards of blasted rock, at 56 cents per cubic yard, and 2 cents per cubic yard, in addition for dredge vessel repairs.

The total number of cubic yards dredged, scow measurement, was 19,636, at a cost of $8,460.84. No delays took place in locking through, and navigation was kept open.

*St. Andrews Rapids.*

The improvements at St. Andrews rapids consisted of widening the 100-foot channel, which was blasted and dredged in 1912, to 150 feet, 1,300 feet long and 10 feet deep, or to elevation 671·00, St. Andrews datum. It was also necessary to re-blast portions of the channel which had been dredged, and remove a foot of rock to get down to the required grade of 671·00, which was not done in the previous blasting. A total area of 172,884 square feet was blasted at an expenditure of $14,879.71.

Strong representations having been made that fish were not able to pass through the St. Andrews dam, and up to the head waters of the Red river, it was decided to build a fishway, and tenders were called for. William Newman & Company, of Winnipeg, were awarded the contract, February 17, 1913, for the sum of $4,456. Work commenced on March 22, and the following amount of work performed, when the water in the Red river raised, covering the work and forcing them to stop.

Work done and materials delivered, as follows: 2nd class concrete, 274·3 cubic yards; re-inforcing steel, 3,865 pounds; channel iron and bolts, 620 pounds; flashboards, 33; rock excavation, 20 cubic yards; earth, 5 cubic yards; scraping and preparing submerged dam. Material delivered: Gravel, 171·5 cubic yards; re-inforcing steel, 1,146 pounds.

During the high water of the spring of 1910, the spare lock gates, for St. Andrews lock, were carried from their moorings, at Selkirk, and left on dry land. It was deemed advisable to have them moved to the lock in case of accident, and they were launched and towed to Lockport. The cost of launching was $569.93.

*Dredging—East Channel.*

This channel is the one used by steamers, and carries all traffic between Winnipeg and all points on lake Winnipeg, and extends two and a quarter miles from the mouth of the Red river into the lake. Usually the channel on the outer portion silts up, but the past season was an exceptional one, as comparatively little dredging had to be done. The inner part of the channel maintains a wide and deep channel, so that no dredging is required.

A survey made on the ice this winter, and soundings taken, show that only a few short sections have filled in and give less than 7 feet of water. The outer portion of the channel is marked by piles, driven every spring on the East side, and it was along the inner part of this channel that P. W. dredge *No. 201* commenced work May 25, and dredged until June 15, cutting a channel 1,285 feet long, 80 feet wide and 2·8 feet deep, removing 10,030 cubic yards of sand and mud, in place, at a cost of $963.34, or 9¾ cents per cubic yard, with 1¾ cents to be added for dredge vessel repairs.

*Mouth of East Channel.*

A barge belonging to the Lake Winnipeg Shipping Company, Limited, during a bad storm, broke adrift from the tug *Phyllis Williams*, owned by the same company and drifted into the mouth of the Red river, east channel, grounding on the west bank. The wind had caused the water to rise over 4 feet above the normal level, and after the storm was over the water receded, leaving the barge stranded. A request was made to have barge released and P. W. dredge *No. 205* was sent down October 1 to dig a channel alongside so as it would float off. This work was completed October 6, and 3,007 cubic yards of mud were removed, at a cost of $133.77.

*Lister's Rapids.*

The dredging, at Lister's rapids, five miles north of Winnipeg on the Red river, consisted of the removal of boulders, which are constantly being carried down stream by the ice and current; and the removal of a layer of lime-stone rock, to make a channel 10 feet deep at regulated water level, St. Andrews dam, elevation 703·00, 900 feet long and averaging 85 feet wide.

This work was carried on by P. W. dredges *No. 205* and *No. 202*. The first mentioned dredge, after completing its work at the lower entrance of St. Andrews lock, was towed to Lister's by tug *Friday*, June 24, and worked continuously until July 31, removing 2,343 cubic yards of solid rock and boulders, scow measurement, at a cost of $1,455.22, or 62 cents per cubic yard, to which 1½ cent per cubic yard must be added for dredge vessel repairs.

P. W. dredge *No. 202* was towed to Lister's rapids July 25 and remained there until September 30, and dredged 4,543 cubic yards of solid rock, costing $2,103.83, or 46 cents per cubic yard, with 2 cents per cubic yard to be added for dredge vessel repairs. The total number of cubic yards dredged was 6,886, costing $3,559.05. Besides dredging, the whole channel, 1,200 feet long and 150 feet wide, was swept to a depth of 10 feet.

*New Entrance Channel.*

The protection work having been extended the past season, from the new entrance channel, where the Red river enters lake Winnipeg, out 1,800 feet on the east side and practically 1,760 feet on the west side, it was decided to commence dredging the channel, and P. W. dredge *No. 201* started work May 6, and dredged from the shore outward, making a channel 500 feet long, 150 feet wide and an average depth of 4 feet. For a further distance of 3,000 feet the channel was made 75 feet wide and an average cut of 6 feet was made, giving a depth of 7 feet below zero of the water gauge. The summer water level is 2 feet above zero, which would give a channel 9 feet deep.

The total quantity of mud and sand removed was 78,187 cubic yards, at a cost of $8,434.98, or 10¾ cents per cubic yard, to which has to be added 1¾ cents per cubic yard, for dredge vessel repairs.

A survey was made on the ice in March, and soundings taken, which showed that out for some distance the channel had not filled in very much, a good 9 feet being found, except in one place. From this point out, the channel had silted up to 6 feet. The result obtained so far has been good, and it is expected that, with the protection work extended out farther, the current will practically keep the channel clear.

The dredging season closed October 30th, and the dredge went into winter quarters, at Selkirk.

Dredging was also done by P. W. dredge *No. 205*, in the new channel at the inner end of the protection work, east side, amounting to 4,947 cubic yards. The point at the junction between the new channel and centre channel, was dredged to the extent of 3,492 cubic yards. This work totals 11,931 cubic yards of clay, at a cost of $874.27, or 7⅓ cents per cubic yard, to which add 1½ cents per cubic yard for dredge vessel repairs.

*Sugar Point.*

Dredging was required at Sugar point, six and a quarter miles below St. Andrews lock and dam on the Red river. P. W. dredge *No. 205* was towed, by tug *Friday*, from Lockport to Selkirk for repairs on June 1st, and, on the way down river, dredged 1,746 cubic yards of gravel and mud at Sugar point, working until June 8th. On July 30th, the dredge resumed operations and worked until September 29th, removing 16,779 cubic yards of gravel, stones and hard-pan, making a total of 18,525 cubic yards, at a cost of $4,343.55, or 22¾ cents per cubic yard, to which must be added 1½ cents per cubic yard for dredge vessel repairs.

SELKIRK SLOUGH.

The slough, at Selkirk, is used as winter quarters for the fleet sailing out of Selkirk. The shipyard belonging to the department is also situated on it, and as a large amount of room is required to accommodate the dredges, tugs, scows, pontoons, etc., it was necessary to widen the slough slightly and dredge to a depth of 9 feet. The length of the cut dredged was 800 feet along the east bank of slough. The dredging was done, with the exception of P. W. dredge *No. 202*, when the dredges reached Selkirk preparatory to going into winter quarters.

The following shows the work done and cost incurred by the different dredges:—

P. W. dredge *No. 205*, towed to Selkirk October 30th and started work October 31st, dredged two days, and removed 1,067 cubic yards of mud and clay, at a cost of $99.99, or 8½ cents per cubic yard, to which 1½ cents per cubic yard should be added for dredge vessel repairs.

P. W. dredge *No. 204* reached Selkirk October 30th and worked until November 5th, removing 2,640 cubic yards of mud and clay, at a cost of $122.56, or 4¾ cents per cubic yard, to which should be added 2½ cents for dredge vessel repairs.

P. W. dredge *No 202* left Lister's rapids October 4th, towed to Selkirk slough, and started to dredge on the 7th and finished November 6th, having dredged 8,791 cubic yards of mud, at a cost of $1,080.68, or 12½ cents per cubic yard, adding 2 cents per cubic yard for dredge vessel repairs. The total quantity removed by all dredges was 12,498 cubic yards, at a cost of $2,306.23.

SNAKE ISLAND.

Representations having been made by the Department of Marine and Fisheries of the necessity for improving the harbour at the hatchery, Snake island, and providing a new entrance channel near the hatchery (this entrance is also required as a source of clear water supply), the P. W. dredge *No. 203* was sent there October 1st. As the Government tug *Irene* could not handle the dredge on the lake, it was necessary to hire a tug to take the dredge there.

On October 3rd, the dredge began on the new entrance to the harbour, near the fish hatchery. On Friday, October 18th, the dredge was blown ashore and continuous efforts to float her were made until November 6th. On this and the following day, the dredge was laid up for the season. All tools, cooking utensils, etc., were removed and stored for the winter.

An advance of 123 feet was made and the quantity removed amounted to 720 cubic yards. The expenditure was $1,535.20, or $2.13 per cubic yard. This high cost was owing to the difficulty experienced in moving from Mossy river to Winnipegosis. A Howe truss bridge, built by the provincial Government in 1909, had to be passed through, and it was necessary to remove the boom, A frame, spuds and house of the dredge, and replace after the passage was made.

VICTORIA BEACH BAY.

As the east side of lake Winnipeg is without a harbour of refuge, it was decided to build a breakwater and wharf at Victoria Beach bay.

The contract was let February 16th, 1912, to the Fort Garry Lumber Company, of Winnipeg, for $14,500. The structure is 342 feet 2 inches long and 15 feet wide, and is of pile construction, three piles to a bent and bents 5 feet 3 inches apart, centre to centre; the sides and end being sheathed with piles driven closely together and bolted to the longitudinals; 1,000 cubic yards of rock were used for filling; British Columbia fir was used entirely for caps, wales, flooring, etc. There was a delay in completing the wharf and the contractors were granted six weeks' extension of time, to September 30th, when the work was satisfactorily completed.

The approach to the wharf required the following material, which was not included in the contract, but was provided for in the specification:—

| | | |
|---|---|---|
| Rock embankment, 211 cubic yards at $1.75 | $ 369 | 25 |
| Earth, 118 cubic yards at 50 cents | 59 | 00 |
| Gravel, 17½ cubic yards at $1 | 17 | 50 |
| | 445 | 75 |
| Extra lumber and bolts | 4 | 92 |
| Contract | 14,500 | 00 |
| Total | $14,950 | 67 |

WILLOW POINT.

The dredging at this point was for the purpose of cutting a channel to enable the tugs and barges of the Lake Winnipeg Shipping Company, Limited, to approach the bar to load barges with sand. This work to be paid for by the company.

P. W. dredge *No. 204* dredged 6 days in the month of August, and removed 3,247 cubic yards of sand and mud, at a cost of $375.55. The company has been charged with 6 days' services of dredge at $75 per day.

WINNIPEG BEACH.

The Canadian Pacific Railway Company rented P. W. dredge *No. 204* for the purpose of dredging a harbour inside the protection pier built by the department in 1910.

The dredge was towed from Gimli by tug *Peguis*, August 30th, commenced dredging September 3rd, and worked until October 29th, when the season closed, and dredge was towed to Selkirk and laid up for the winter. During the time the dredge worked, there were removed 27,845 cubic yards, scow measurement, of mud and clay, at a cost of $2,482.14, or nearly 9 cents per cubic yard, to which should be added 2½ cents for dredge vessel repairs.

The dredge was rented to the Canadian Pacific Railway Company for $75 per day. An account was rendered them for a total of 52 days' work at $75 per day, amount, $3,900.

WINNIPEG RIVER.

The work at Millar's rapids, Winnipeg river, was for the purpose of removing a ledge of rock and boulders, which extend across the river from Old Fort island to the mainland. This ledge holds the water back, and makes a strong rapids, which at low water is impossible even to warp a steamer up stream.

After fitting out a drill scow, drilling and blasting commenced on November 28th and continued until January 13th, when the scow was turned into a temporary dredge, and work commenced January 21st, dredging a channel 200 feet long, 40 feet wide and averaging 2½ feet in depth, so that there is from 7½ to 8 feet of water at low water, and these rapids have disappeared; 719 cubic yards of solid rock, boulders and hard-pan were removed and cast over on the sides. After finishing this cut, the dredge was moved down river a quarter of a mile and swept the channel of boulders, and dredged 568 cubic yards of boulders and gravel. Dredging was finished March 15th. The expenditure was $5,983.77.

WINNIPEG.

The dredging in the Red river, at Winnipeg, was for the purpose of letting steamers and barges reach a public wharf, north of Broadway bridge, also to cut through a bar north of the bascule lift span of the Grand Trunk Pacific Railway bridge.

P. W. dredge *No. 204*, in tow of the rented tug *Fisherman*, left Lockport on May 31st, started dredging on June 1st, and worked until July 27th, cutting a channel on the north side of Broadway bridge, 567 feet long, averaging 85 feet wide, and, on the south side of the bridge, a channel 450 feet long by an average width of 95 feet. Both cuts were dredged to a depth of 9 feet below regulated water level, St. Andrews dam, and 23,397 cubic yards were dredged, at a cost of $3,268.82, or 14 cents per cubic yard, to which is to be added 2½ cents per cubic yard for dredge vessel repairs.

## SASKATCHEWAN.

LAST MOUNTAIN LAKE.

The improvement of Last Mountain lake in the interests of navigation is being carried on by the departmental plant built at Craven, Sask., a few years ago, for that purpose. The plant consists of one dipper dredge, with a capacity of one cubic yard, two dump scows, capacity 32 cubic yards each, and the tug *Ruby*, used for towing purposes.

The usual spring repairs to this fleet were started on April 1st, and completed on May 16th. Actual dredging was not started, however, until May 20th, on account of the frost being still in the ground. From that date, work was carried on continuously in the turning basin at Valeport until August 22nd, when the necessary excavation for a basin, 900 feet long and 125 feet wide with a depth of 6 feet at low water, was completed. The material removed consisted chiefly of clay and gumbo, with a small quantity of gravel and sand, and amounted to 14,333 cubic yards, scow measurement.

From August 22nd to September 16th, the dredge was kept at work in the channel leading from the turning basin at Valeport to deep water in the lake about 4,700 feet beyond. This channel was dredged in previous years to a width of 40 feet to enable scows being towed to the dumping grounds. The material excavated at that time was simply cast on either side of the channel; to remove this and to provide a width of 65 feet throughout the entire length of the channel for lake vessels, a strip from 20 to 25 feet wide was cut from the east side of the channel for a length of 368 feet. The material removed was hard clay, with some stones and gravel, and amounted to 3,794 cubic yards, scow measurement.

Dredging operations were discontinued on September 16th, and the fleet was put in winter quarters at Valeport on October 1st.

PRINCE ALBERT.

Authority to proceed with the construction of the Prince Albert wharf and protection works by day labour was given on June 21, 1911, and actual work started about July 20 following. The wharf proper was practically completed at the end of the fiscal year 1911-12.

The work done this year consisted in the filling of the space back of the wharf with stone and earth and the laying of a stone pavement with gravel top over the graded area. The roadway along the bank leading from River street to the wharf was widened and graded to the proper slope.

After the subsidence of the summer flood last July, it was found that part of the back filling had been washed out in two places and that considerable scour had taken place around the pile-work of the high level section of the wharf. The repairing of these washouts was attended to, and in order to prevent further scouring, and to anchor the wharf more firmly, some 8 cords of large stones were placed amongst the piles and against the sheet piling at the back of this section of the wharf.

During the winter months, advantage was taken of the river roads on the ice to haul stone gathered last fall and to pile it at convenient points for use in connection with the bank protection works. A considerable quantity of stone was also taken off the bars directly opposite the city; dynamite had to be used, as most of the boulders could not be removed otherwise. Total quantity of stone on hand, about 115 cords.

Bank protection works were carried on during the summer in conjunction with those on the wharf. Some 409 piles, spaced 6 feet apart, were driven along the foot of the river bank from the upper end of the wharf to the Canadian Northern Railway Company's bridge, or for a distance of 2,300 feet, approximately. Double wales were bolted to the top of these piles for a length of 1,261 feet upstream from the wharf and 4-inch tamarac sheet-piling driven between them for a distance of 271 feet. Owing to these works not being able to withstand the pressure of the graded banks, which they were intended to support, they were discontinued in September last.

Total amount expended, $9,934.74.

*Removal of Boulders.*

The removal of a number of large boulders interfering with the working of the ferry across the Saskatchewan river at Prince Albert was attended to in the latter part of September. The derrick scow *Hawk*, with a force of six men, was engaged on

this work from September 16th to September 30th. The boulders taken out were piled on shore and removed up river during the winter to the Government wharf. They will be used this season in connection with the bank protection works.

Amount expended on this work, $200.

## ALBERTA.

### ATHABASKA RIVER.

There were three gauging stations established in this province during the fiscal year just closed, one at the town of Athabaska on the Athabaska river, one at Mirror Landing at the junction of the Athabaska and Lesser Slave rivers, and one at Peace river crossing on the Peace river near its junction with the Smoky river. These gauges were placed in the streams mentioned in the spring of 1912.

As it was found impossible to continue reading rods during the winter months, as the rods were not fastened permanently in the streams, and the ice held them firmly, it was determined to place a pier in the Athabaska river at Athabaska for the purpose of establishing a permanent gauge thereon, which could be read all the year round. This was carried out during the months of February and March last, a pier being placed in the Athabaska river at a cost of $950, an additional appropriation of $60 being made to cover the cost of the said work. Readings were commenced on this new gauge on March 7th last, and are being continued at this date.

In connection with this work, accurate cross sections were taken of the Athabaska river at Athabaska, and the velocity of winter flood was obtained, so that a good idea of the minimum volume of water flowing down the river at this point could be obtained.

*Removal of boulders, etc.*

The Athabaska river rises in the Rocky Mountains and flows, generally speaking, in a northeasterly direction across northern Alberta. North of Athabaska it serves as the present only method of transporting supplies to the districts of Fort MacMurray, Great Slave lake and the MacKenzie river basin. At a distance of 175 miles north of Athabaska there is a series of rapids, by far the largest of which is Grand Rapids, having a drop of 40 feet in less than a mile. Numerous large boulders obstruct these rapids, thus rendering the passage of scows carrying supplies northerly most dangerous. At Grand Rapids it has always been necessary in the past to unload the scows at the head of the rapids and let them run through empty, portaging supplies overland to the foot of the rapids. Even when scows ran through empty, in many cases they reached the still water at the foot in a leaky and damaged condition. It was considered possible by removing the boulders from the channel to so improve it that loaded scows might go down in safety. Accordingly, work was started during the fiscal year 1910-11 and considerable improvement was made. During the fiscal year 1911-12, the work of removing boulders was continued. Work during the fiscal year 1912-13 was started on September 25th last.

There were approximatively 1,500 cubic yards of rock removed permanently from the channel. In addition to this, a large amount of ice was removed by blasting in order to gain access to the boulders which required to be removed. Good progress was made with the work during the season just closed, and it is probable that the work accomplished will prove sufficient to allow scows to go down stream with comparative ease, which was the end to be attained.

At Moose Portage, which is located on the Athabaska river about ten miles east of its junction with the Lesser Slave river, there were several boulders which obstructed navigation of the stream. Work was done during the time available at removing these boulders, and considerable improvement to navigation will result.

EDMONTON.

The location of the wharf is immediately east of the Government low level bridge in the city of Edmonton. The design called for a structure having a total length of 180 feet along the back and 121 feet along the front, with an extreme breadth of 60 feet. The design also called for two levels, the upper one being 11 feet 5 inches above extreme low water level and the lower one being 7 feet 5 inches above the same datum, the Department of Public Works having obtained transfers giving right of way to this wharf from the public roadway leading to the low level bridge. The wharf itself is constructed on Government property.

The contract for this work was let to Messrs. Smith Bros., Ltd., of Edmonton, for the sum of $9,299. Work was started at driving piling on the 1st of November, 1912, and the wharf was completed on January 6th, 1913.

The total cost of the work, as completed, included the amount of the original bid and the extra work authorized, amounting to $254.45, giving the total cost of the work as $9,534.45.

GROUARD.

The object of this work is to create a channel from deep water in Lesser Slave lake to Grouard, on Buffalo river, which connects Buffalo lake with Lesser Slave lake. The proposed channel, when completed, will have a width of 50 feet on tangent and 60 feet on curves, with a depth of 4·5 feet below low water. The nature of material removed consisted principally of gumbo or dark, sticky clay. The total quantity of material removed consisted of 3,989 cubic yards, place measurement. This work has been done by the departmental dredge *No. 206*. Work at excavation was commenced on June 3, 1912, and stopped for the season on October 5, 1912.

LESSER SLAVE LAKE.

The dredge operating under this appropriation was moved from Lesser Slave river to the vicinity of Grouard at the head of Lesser Slave lake in September, 1911, where dredging operations were carried on until October 21 of that year. This work consisted in creating a channel from the deep water in the Lesser Slake lake to Grouard on the Buffalo river, which connects Buffalo lake with Lesser Slave lake. The dredge was put in commission again by May 15, and work was continued up to October 15, when the dredge was laid up in winter quarters at Grouard.

This dredge is of the orange peel type, handling a 21 cubic foot bucket. No scows or tugs have been used on the work, the material being all side cast as the dredge proceeded. Most of the excavation being in gumbo or hard clay, the material thus deposited did not fill in the channel to any great extent, but has maintained its position very well. The quantity of material removed (place measurement) totals 33,923 cubic yards, of which amount 9,100 cubic yards were removed below sub-grade. The amount of expenditure chargeable to the above appropriation, as per accounts rendered up to the end of the fiscal year 1912-13, totals $5,179.13. This does not include certain expenditures which were charged to D.V.R. It does include, however, expenditure for general renewal of stock equipment for next season's work, and also the cost of three hundred cords of firewood for next year's work. Cost per cubic yard, calculated from total expenditure, 20 cents. The town of Grouard is situated at a distance of 205 miles from Athabaska, the nearest railroad station, so that it is absolutely necessary to have supplies of all kinds on hand previous to the beginning of the work.

There were six men engaged on the dredge during the past season on an average, including the captain.

## BRITISH COLUMBIA.

### AINSWORTH.

Ainsworth is a town on the west side of Kootenay lake, thirty-one miles from Nelson. It has only a population of 100, but is the shipping point for a prosperous mining camp adjacent.

The wharf at this place was built by public subscription, aided by the Government of the province, in 1894, but a number of large boulders alongside was a menace. Under authority received the departmental dredge *Bittern* moved to Ainsworth on March 11 and worked there on the 11th and 12th removing the boulders, casting them over into deep water. The cost of this work was $77.08.

### ALBERNI WHARF.

This wharf, which is situated on the Somas river at the head of Alberni canal, was built by day labour.

Work was started on July 16, 1912, and the wharf was completed on October 25, 1912.

The size of the wharf is as follows: 98 feet long by 50 feet wide, and the approach is 100 feet long by 14 feet wide. There are two slips, one 12 feet wide for unloading freight, and one 6 feet wide put in for the convenience of the public when landing at the wharf from small boats and launches.

There is 10 feet of water, at low tide, along the face of the wharf, and the total expenditure was $2,615,09.

### ALICE ARM.

Alice arm, Observatory inlet; at this point a pile wharf 40 by 60 feet with an approach 1,570 feet long and 14 feet wide was constructed by day labour under an agreement with Mr. W. G. Gillette, of Vancouver, who had a plant on the ground. This wharf has 20 feet of water along its face at low tide. It will serve quite a large number of prospectors, miners and homesteaders in the surrounding country. At the present, there are no settlers other than a few prospectors in the immediate vicinity. The work cost $4,080.06.

### BAMFIELD.

The following repairs were made to the wharf: Eight new fender piles, 10 new chocks, and 4 braces were put in. Longitudinal timbers were placed along the front of the cement piers at low water mark so as to bolt on the fender piles; the timbers were lashed to the cement blocks with wire cable. The four braces were put in to strengthen the corner pier, which was damaged by a steamer. A small shed was repaired, and a new shed built, 14 feet wide by 24 feet long with 8-foot walls and peak roof.

Work was commenced on 20th and completed on March 31, 1913.

The total expenditure was $739.30.

### BOSWELL.

Boswell is situated on the east side of Kootenay lake, twelve miles from Proctor and thirty-four miles from Nelson. It is a growing farming and fruit-raising settlement, and has a population of 150.

A vote of $7,500 was passed for the construction of a wharf at this place during the year 1912-13, and a contract for the work was let to H. Perry Leake, of Nelson, on September 6, 1912, for the sum of $8,437.

The construction of the wharf was begun by the contractor on September 30, 1912, and completed on January 31, 1913.

The structure is a pile and timber wharf, 362 feet in length and 32 feet wide. The upper 48 feet is level and the remaining 324 feet is on a uniform slope of 1 in 11½, to 5 feet above low water level. In addition to the work called for in the contract, the following has been done: Slip, 6 by 36 feet, lower end 24 inches above low-water level, built in end of wharf; spring dolphins, 4 piles in each, placed at outer corners and at 60-foot intervals along each side; shelter, 12 by 16 feet placed at upper end.

The total cost of the work, including the above extras, was $9,276.

BURRARD INLET.

The dredge *Mastodon* was employed throughout the year in Burrard inlet on the following locations: First narrows, Coal harbour and Parthia shoal.

The work on the First narrows was continued from last year, and consisted of the removal of gravel from the north shore of the narrows. About the end of May, work was stopped on approaching the city of Vancouver water supply pipes; these pipes have not, as yet, been removed.

BURR'S LANDING.

*Dredging.*

From September 11th to October 19th the dredge *King Edward* worked at Burr's Landing, and a channel 150 feet wide, 1,200 feet long and 9 feet deep at low water was cut, and 39,100 cubic yards removed.

BURTON CITY.

Burton City is a supply point for an extensive farming territory and for a mining district on Caribou creek, a tributary of the Columbia river. It is situated on the Columbia river narrows, sixteen miles from Nakusp, and the town and district have a population of 300.

The existing wharf consisted of a pile and timber structure, 320 feet in length. On account of the shallowness of water, during the winter months, it was fond necessary to extend the wharf an additional 40 feet into the river. General repairs were also required, and the placing of pile dolphins at the outer end of the extended wharf.

Work commenced on November 23, 1912, and completed on January 27, 1913, at a cost of $2,418.95. This amount included the cost of an entire outfit of tools, etc., for a gang, which tools are now available for other work in the district.

CAMPBELL RIVER.

The repairs to this wharf consisted in renewing, with hardwood piles, 15 of the main bearing piles, and building an extension 20 by 100 feet to the face of the main wharf. This work was done by Messrs. James McDonald & Company, who were given the work at a fixed rate of $32 per pile driven in place, and $35 per thousand for lumber in place, including fastenings, and the total expenditure was $2,943.12, of which $533.12 was paid for work done during the fiscal year 1911-12.

Work was started on June 14, and completed on July 25, 1912.

CANOE PASS.

On March 6th, authority was received to start work on the mattress work required in Canoe pass, and work was started on March 18th, but was closed down on March 31st. The only work done was cutting brush to make the mattresses.

The cost of this work, and material purchased, was $1,399.14.

CEDAR CREEK.

Cedar creek, on the west side of Kootenay lake, one mile north of Ainsworth, is the lower terminus of two aerial tramways which carry ore from mines to water for shipment to smelters.

These mines are: Highland, owned by Canadian Mining and Smelting Co.; No. 1, owned by Canadian Mining and Smelting Co.; Naestro, owned by Canadian Mining and Smelting Co.; Silver Hoard, owned by Silver Hoard Mining Company.

These companies have just completed extensive ore bunkers at Cedar creek, through which to ship ore from their own mines and others which are under development on Cedar creek. Owing to the water increasing in depth from 5 feet to 90 feet in a distance of about 120 feet, it was found necessary to build the bunkers well into shore in shallow water and it was necessary to dredge a channel on both sides to allow car barges to come alongside.

Under authority received, the departmental dredge *Bittern* moved to Cedar creek on March 13th to dredge these channels. The material was found to be hard clay and large boulders, and progress was slow. She was still engaged on this work on March 31st. Up to that time, she had moved 2,610 cubic yards. The pockets dredged on each side of the bunkers are 60 feet long, 50 feet wide and have a depth of 5 feet at low water. The total cost of the work up to March 31st was $693.70.

CELISTA.

Celista, situated on the north of Shuswap lake, opposite to Sorrento, is a settlement of about sixty people, engaged in mixed farming. Water transportation is the only means of communication and of obtaining mail and supplies from the main line of the C. P. railway at Notch Hill, B.C.

The wharf is a pile bent structure 126 feet long and 32 feet wide, having an outer block 48 by 32 feet, the height of decking throughout being 2 feet above high water level.

Along the east face, for the outer 56 feet of wharf, an incline platform 8 feet wide on a slope of 1 in 7 was built to water level.

Pile bents were driven at 14 foot centres and surmounted by 10 by 12 inch by 32 foot caps, 10 by 12 inch by 28 foot stringers, 3 by 12 inch by 16 foot joists and 3-inch decking, all the timber used being B.C. fir.

Work was carried on continuously from the time of commencement, 2nd September, and was completed on 28th.

The total expenditure being $3,822.42.

CHASE.

On the 10th May, the dredge was towed to Chase Government wharf, where her machinery was overhauled and the dredge generally fitted up, prior to the work being shut down on the 31st May, owing to the approaching season of high water.

Work was started again on the 17th July, and before leaving her anchorage at the Government wharf some little dredging and scraper work was done here, about 3,000 cubic yards of clay and gravel having been removed and overcast behind the piling along the Government wharf, where teams and scrapers were employed to distribute the material.

CHILLIWACK.

The removal of snags near Chilliwack during the low water season, when the water is too shallow for the snag boat to operate there, was done and charged to this appropriation, at a cost of $504.85.

On March 6th authority was received to start work on the removal of log jams. This work was commenced on March 16th and closed down on March 31st, according to instructions.

The cost of this work was $489.35.

COAL HARBOUR.

On July 3rd the *Mastodon* commenced work in Coal harbour. A channel, 200 feet wide and 15 feet deep, was made. The material consisted of large boulders imbedded in hard-pan and clay, and constituted very difficult dredging; this, coupled with the fact that most of the dredging was done by the bag of the buckets and not on the tumbler, made progress very slow and rapidly wore down the bucket lips and started almost every rivet in the buckets. Owing to the shallow water in which the dredging was done, it was necessary to replace the tug *Point Ellice* with the *Point Hope,* the former being sent to Victoria.

The scows were handled by the *Point Hope* in the shallow water, and handed over to the *Point Grey,* the latter taking them to the dumping ground.

On October 5th, the dredge had to cease operations on account of being unable to obtain a supply of coal—the shortage being caused by a strike in the mines of the Canadian Collieries (Dunsmuir) Limited. An oil burner installation on the 'Dahl' system was installed and the dredge put into commission on October 12. The oil fuel installation has given entire satisfaction and has considerably reduced the time required to put fuel on board this machine. The oil tanks, however, are not of sufficient capacity, holding not quite a week's supply of oil. It is recommended that additional tanks be constructed in this dredge.

COLUMBIA RIVER.

The portion of the Columbia river which connects the Upper and Lower Arrow lakes is known as the Narrows, and is about twenty miles in length. There are numerous bars and shallows in these narrows and since 1909, this department has been at work on the dredging of the river with the Government dredge *Nakusp.* Although this dredge was employed part of each season on this work, it was found that it was unable to improve the channel and keep it in proper condition for navigation, and during the year 1911-12, the new dredge *Sheldrake* was built and put into operation during the present year, and the dredges *Nakusp* and *Sheldrake* have both been in operation throughout the past season of low water.

*Two Beacon Bar.*

On October 22nd, the department dredge *Nakusp* began operations at Two Beacon bar, about one mile above Burton city. The dredge worked continuously on this portion of the channel until March 31st, when work was still in progress. The new channel excavated is 2,623 feet long, 75 feet wide and has a minimum depth of 8 feet at low water stage. The material moved was principally clay, with a light deposit of fine silt on top, and amounted to 53,988 cubic yards.

The completion of this new channel will give an excellent river crossing for steamers from the channel above, which is on the west side of the river, to the channel below that lies along the easterly bank. The total cost of the above work was $6,542.17.

*Below Burton City.*

The Columbia River narrows, below Burton city, for a distance of almost half a mile, receive a heavy discharge of sand and gravel from Cariboo creek, which erodes its bank annually during the season of high water, and carries the eroded material into the narrows.

The new departmental dredge *Sheldrake* was assigned to the work of removing this material out of the channel during the past winter. She began fitting-out operations at Burton city on September 30, 1912. When actual dredging operations were commenced, it was found that certain changes in the equipment of the dredge were necessary, and a number of changes were made which improved her capacity very much. It is still necessary, however, to change the 2½-yard clamshell bucket, now in use, to a 1½-yard bucket, as it has been found that the bucket when on a 60-foot boom, is too heavy for the scow and the spuds are unable to give necessary support. Outside of the delays caused by the above changes the dredge has proved to be an exceedingly capable one and has done an excellent season's work.

The actual work of dredging the channel was begun on January 1, 1913, and continued until March 31, at which time it was still in progress.

The channel is being dredged to a width of 75 feet and a depth of 8 feet at low water stage. The total length of the cut will be 2,600 feet, of which 1,980 feet had been completed on March 31, the material being coarse gravel and sand. Altogether, at the above date, 20,889 cubic yards had been moved, at a cost of $2,915.63.

*Survey.*

There are three stretches of the Columbia river in Canada which are navigable and navigated.

The first or upper stretch is from the Windermere lakes, at the head-waters of the Columbia, to Golden, on the main line of the Canadian Pacific railway, a distance of approximately 100 miles. This portion of the river is navigable for from 6 to 7 months of the year for light-draught boats, the boats now in service having a maximum draught of twenty-four inches.

The second stretch is from Downie creek south to Revelstoke, a distance of 45 miles. This is only navigable for highly powered light-draught boats for about six months of the year.

The third stretch is from Arrowhead, at the head of the Arrow lakes, to Robson, at the south end of the Arrow lakes, a distance of 127 miles. This stretch is navigable for steamers having a draught of five feet and a length of 225 feet during the whole year, except in seasons when the water may be especially low, or particularly cold weather causes ice to form on a stretch 12 miles long at the head of the Lower Arrow lake. During these low water seasons, smaller boats having a maximum draught of 3 feet 6 inches are operated.

While there is not regular navigation between Revelstoke and Arrowhead, 27 miles, and between Robson and the international boundary, 30 miles, these stretches could be navigated during the summer months by light-draught boats, if necessary.

For some years past, this department has done a small amount of work each season in removing snags, building wing dams, dredging small bars, etc., on the first stretch from the Windermere lakes to Golden, and for the past five years has operated dredges continually on the third stretch, in the narrows between the Upper and Lower Arrow lakes, for the purpose of keeping navigation open during the lowest stages of water. Until very recently, the small winter boats have been able to furnish satisfactory service through the narrows, but with the rapid development of the country it is becoming more difficult and, in fact, almost impossible to give satisfactory service with these small boats, and the Dominion Government, recognizing this, voted a sum during the last session of Parliament for the construction of a large suction dredge, which will improve the channel through the narrows to such an extent as to allow the operation of the larger class of steamers continuously, between Arrowhead and Robson.

In addition to the above work, this department is now engaged on a thorough survey of the portion of the river lying in Canada, with a view to determining the

possibility and probable cost of making such improvements as will make the river navigable from its head-waters to the international boundary.

Following the course of the Columbia river, the distance from Golden to Revelstoke is very approximately 185·5 miles; by the main line of the Canadian Pacific Railway, through Roger's Pass, over the divide between Bear creek, a fork of the Beaver river, and the Illecillewaet, the distance is 95 miles, for the first 29 of which the railway follows the Columbia river. From Golden, the Columbia flows northwesterly for 95 miles to the mouth of the Canoe, where it turns abruptly and continues almost due south to Revelstoke; the mouth of the Canoe is 77 miles due north and a little west of Revelstoke. This portion of the river, aptly known as the 'Big Bend,' lies almost entirely in the easterly wet belt of British Columbia; the valley with little exception is narrow between mountain slopes, and there are many glacial tributary streams, which carry large quantities of silt, so that the river is generally dirty and liable to sudden floods in the warmer seasons. The range between high and low stages gradually increases going down stream, 8 feet being a fair average throughout the upper reaches, against 16 feet at Revelstoke. The river has been known to freeze over as early as the first week in November, and the ice in Kimbasket lake, 69 miles from Golden, can remain as late as the end of April. Travel around the 'Bend' in small boats has been more or less common for many years. At the beginning of the last century, the Hudson's Bay Co. maintained a trading route up the lower half to the mouth of Wood river, which flows into the Columbia a couple of hundred yards above the mouth of the Canoe, packing thence by trail up Jumping Jack creek to the Athabaska pass; their old camp ground at the mouth of Wood river, still known as 'Boat Encampment,' is easily picked out by the absence of big timber.

Trappers and prospectors have continued to use the river, generally starting from Beavermouth and running down, as a means of access to the Big Bend country, the valley of the Canoe, the Yellowhead pass and the upper Fraser valley. Freight, in limited quantities, has been worked up against stream from Revelstoke in recent times, and on the lower reaches a steamer runs during a part of the summer to Boyd's ranch. The provincial Government maintains a pack trail on the north bank from Donald to a crossing about 3 miles above Canoe river, where a cable ferry was installed but has since been washed away, and a ferry man is stationed during a part of the year; from the crossing, the trail follows the opposite bank to Revelstoke. The chief drawbacks to this route appear to be lack of horse feed, and the crossing of the Bush river above Surprise rapids. A wagon road is in existence from Revelstoke to the upper end of the Revelstoke canyon. The C. P. Ry. have made a preliminary survey from Beavermouth around, and the fall of the river throughout and between our surveys, discussed later, has been deduced from their bench mark elevation on this line. Travel by boat is, as will appear, both difficult and hazardous; only experienced boatmen will undertake the trip, and a year seldom passes without some fatality in one or other of the many rapids.

### *Description of the River.*

Note.—In all the following remarks the right hand bank going down stream is referred to as the right bank.

From Golden south, and up the river, shallow-draught steamers ply regularly in the summer months; the Kicking Horse river, which enters on the right bank at the town, has built big gravel bars in the main river there, among which the channel is split and the current fast. Below these bars and to the mouth of the Blaeberry, on the right bank, conditions are fair. At the Blaeberry are gravel bars and divided channel, and just below the mouth is an old floating glance boom solidly built of square timbers and backed by piling, part of the driving improvements of the old mill at Beavermouth. From the Blaeberry to the railway crossing bridge near Donald, conditions are good; the bridge is built just at the commencement of a stretch of very fast water where

the river is split into several channels among gravel bars washed from the Wait-a-bit creek on the right bank; some crib and rock protection works have been built here on the left of the main channel; the river is very shallow and fast. The Donald canyon starts immediately at the tail of these bars; the Bluewater river on the right bank does not appear at present to carry much wash into the main river, the flats at its mouth are large and extend back from the river for some distance, affording opportunity for the deposit of heavy dirt. The Columbia is bound by its left bank, which is principally rock, to remain in its present course. The canyon itself is a contraction of the river between steep rocky hills, the actual banks being largely bluff and almost wholly reef rock. At the entrance and between points of rock, the surface width is only 75 feet, and throughout the first half of its length the water boils and eddies in a dangerous manner, apparently over deep sunken reefs. High-water conditions can but slightly increase the surface width; the course of the stream could be straightened by removing points of rock, the current could thus be rendered steadier, and by this means also, but at greater expense, a little better width could be obtained; high water would always be accompanied by adverse current conditions. Below the canyon, the river is narrow, from 200 to 300 feet wide, between high benches, the material of the banks alternating rock, especially on the right bank, with gravel and boulders. Just below Redgrave there are, in two places, points of bluff rock with white rolling water at their feet; both are on the outer side and at the lower end of convex bends. Three hundred yards below the second of these places is the commencement of the 'Kitchin's Rapids' survey. Between survey No. 1 and survey No. 2, in a distance of 3·4 miles, the river falls 34·3 feet, approximately 10·1 feet to the mile. The rocks shown in the river near the upper end of this survey are reef, and have had a portion of their tops removed to prevent sawlogs hanging up on them. At the bend, 1,500 feet below these rocks, the river shoals over small boulders and gravel; there is a low water boulder bar on the right bank and fast rolling water below. The right bank here is in rock. At Boulder creek on the left bank, the water becomes fast and rough, and six or seven hundred feet below is the head of Kitchin's rapids, so called after a contractor on C. P. Railway construction. The rapids are wild, white water over very heavy boulders, and extend for about 1,000 feet, with a total fall of 9·5 feet. The glance dam of rock-filled and decked cribbing on the right bank near the head creates bad cross currents in the rapids themselves and blocks the old canoe channel on the right bank. These rapids tend to drown in high water, and to become worse as the river falls; on the bend below there is a heavy swell in fast water over sunken rocks and boulders. Over this survey, in 9,250 feet, there was a fall of 24·1, of which 10·2 are in the first 6,500 to the head of Kitchin's rapids. Below the survey, the river is good to Beavermouth, where, at the mouth of Quartz creek, on the left bank, is the disused saw-mill of the Columbia River Lumber Co., with extensive booms and fences in the stream for collecting their logs, which still form a complete obstruction; immediately at the mill is a dam across the river to maintain a water level in the mill 'ponds'; the right bank end of this dam has been blown out. Currents were measured with an acoustic meter, which, however, only gave readings to a depth of 4 feet; the stage of the water, according to a gauge at the mill, was 5·2 feet above low water. This cross-section gives a discharge of 12,362 cubic feet per second, assuming 80 per cent of surface velocity as mean for each section; this assumption was made in all discharge sections, it is probably high, but means were not at our disposal to investigate the average true mean velocity. Below Beavermouth, and at the mouth of the Beaver river, on the left bank, is a short rapid known locally as Brinkman's Terror, after an old trapper who used this part of the river between Beavermouth and Surprise. Below the mouth of the Beaver, the river is split among islands, the current is easy and the water often shoals over sand and gravel bars; these conditions exist to the mouth of Gold river on the left bank and the Bush river on the right, where the Columbia becomes very wide and

still, between extensive high-water timbered flats. This wide place narrows down suddenly to the head of Surprise rapids, most admirably named, the casual and inexperienced eye hardly notices the ominous white line at the head of the fast water. Between Kitchin's rapids and Surprise the river falls 58·5 feet in 24·4 miles, an average of 2·4 feet to the mile. At the head of Surprise rapids, benches on either hand cut off the flats and form the river banks, the bed changes abruptly from sand and mud to heavy boulders, gravel and rock; the current accelerates and the water becomes broken, white and rolling, directly. Rock, as a flat outcrop, first appears on the left bank at the head; 400 feet below this bank becomes low bluff and crumbling rock, there is a big eddy on the right bank, and then about 900 feet from the head, this shore also becomes rock bluffs about 40 feet high, the benches become lower again, especially on the left bank, and 3,500 feet from the head the river falls over the first drop. The whole upper part above the drop is full of very heavy boulders and occasional reefs, the water shoals as the river approaches the drop, particularly on the left shore, which becomes a boulder bar at low water; there is a heavy broken swell throughout this section and the fall is 16 feet. The first drop is caused by a reef of rock running diagonally across and down from the right bank, over which the water pours with great force; the rock has a well-defined cleavage lying N. 65° E. magnetic, and dipping upstream about 50°. Below are secondary 'steps,' where very heavy boulders have lodged among the reef, the left shore is in rock to above high water and the right is flatter rock, with crumbling banks above; the fall in 750 feet is 21. For 1,750 feet below the first drop is a more or less quiet stretch at the head of which the turmoil of the fall dies away in boils and eddies. A cross-section was taken here, the conditions were unfavourable, and the resultant discharge of 17,357 cubic feet per second at 5 feet above low water does not compare favourably with other measurements, being apparently too high. Over this stretch, the left bank is flat at the water's edge, and the right bank is a gravel bench, partly cut and partly timbered, about 60 feet high; the bed and beaches are of gravel and boulders of all sizes. Some 6,100 feet from the head is the top of the second drop, caused by reefs running diagonally across and down from the left bank; these follow the general direction of the cleavage line, which here is about N. 60° E. magnetic, and dipping 50° upstream. The rocks are low in the water which is wild and white, falling 14·4 feet in 1,200. The right bank is of broken bluffs about 30 feet high, with a timbered bench above, and the left is a rock island and flats. At the foot of this drop is the 'Elbow,' where the river takes a right-angled turn westerly; on the turn is a double eddy and a rock island on the left side about 20 feet above low water. Below the 'Elbow,' for 1,400 feet, the river is narrow between rock banks; low, timbered bluffs, 20 feet high, on the left, and flat rock and boulder beach on the right at the foot of a timbered bench; the current is fast, the water rolling with white caps over sunken reefs, which show occasionally near the shores; over this stretch from the foot of the second drop is a fall of 9·7 feet. Below, high bluffs run out on the right bank, 70 feet above the river, which here eddies; the left bank is a bay with flat shores and a beach of heavy boulders mixed with patches of reef; there are occasional rocks in the stream. Below the eddies is 'Rock island,' 55 feet above the water, and a small rapid known as the third drop, over boulders on the left, and apparently reef on the right; the right bank here becomes timbered bench again, and the left, bluff, surmounted by a timbered hill; the river is narrow, fast and generally white over rock and boulder bed, having a fall, including the third drop, of 25 feet in 5,000. The lower end of this stretch is shoal over boulders, where the left bank bench recedes from the river, which then turns north again between bluffs on both banks, the right hand being low; there is a midstream rock here to high water, standing in eddies. The survey extends to Foster creek, where the portage trail runs to the river, a distance over all of 3·3 miles, with a fall of 95·7 feet. The reef rock in these rapids would appear to be gneiss, with bands of silver

schist and mica schist; below the 'Elbow' there is some hard amorphous rock with quartz crystals. The rapids in their present state are in very bad shape to negotiate; canoes and boats are manoeuvered empty over the first and second drops, and very light loads are run and lined over the remaining portions; the bulk of an outfit is usually carried over the portage trail from the head, clear through.

Below Surprise, the river is fast and rolling; about one mile down there are three channels among gravel and boulder bars, the main river following the left bank in white water. The general conditions are fair to Double Eddy creek, but the current is much faster than above Surprise. At Double Eddy creek, called halfway to Kinbasket lake, its position being doubtful on our map, the river is very narrow, and below there is a double eddy which is a bad place in high water. Below here is another short rapid, the river being shallow in two channels, of which the left is the better; the bed is of gravel and boulders. Small creeks enter on both sides all along this stretch; the banks are timbered benches, the right side being much burnt over; the main mountain ridges are close to the river. Sixteen miles below Surprise is the head of Kinbasket lake; in this distance the river falls 63·7 feet, practically 4 feet to the mile. Directly above Kinbasket lake the banks become flatter and the current easier, the bed being of gravel and sand.

At the head of the lake, the Sullivan river enters on the right bank and the Windy river on the left; the former is a considerable stream and has built large flats of gravel and sand in the lake, through which the river runs over moving bars, being very shoal in places. The lake lies between steep mountains, which run directly down into the water, which is presumably deep; the average width is about three-quarters of a mile; Middle river enters on the right about half way down, with high water, flooding sand and gravel flats at its mouth. At the north end, the mountain benches come close together and the Long rapids commence immediately at the outlet. A survey, extending for rather more than sixteen miles, was made of these rapids, and the result may be condensed as follows: The river is uniformly narrow, seldom exceeding, and generally being much under, 300 feet in width; the banks are timbered benches with narrow beaches of heavy rocks and boulders; flats at the river, never of any extent, are rare; there are many patches of sliding bank and bluffs; the river passes from one rapid to another with occasional stretches of easy water, which become more frequent and of greater duration towards the lower end. The rapids are in most cases over heavy boulders and loose rocks; at 194 (numbers refer to the profile stations) and at 206 the presence of reef rock in the bed is more than probable; above Cummins creek, at about 367, reef rock is certain; in Weasel rapids, above Yellow creek, reef is again probable, and in Yellow Creek rapids, at 640, certain. There is rock in the Red Canyon rapids, and in some places, in the easier water, are patches to or near water level. At the foot of bluffs, and where rock outcrops occur in the banks, the bed is presumably reef, but no definite assertion is made where such rock cannot be observed beyond doubt. In the first mile and a half there are two bad drops, and a fall of 37·8 feet. In the next mile and a half is much fast water and a fall of 26 feet; here is the head of Boulder Rapids. In the next mile, including Boulder and another very bad rapid below, is a fall of 31 feet. In the fifth mile is one small rapid and a fall of 11·5 feet. The sixth mile has one rapid and a fall of 13·5 feet. In the seventh mile, with a fall of 13·2 feet, is one rapid, and, at the lower end, fast water among rocks; in this mile, at profile station 335, a cross-section of the river was taken in a fairly favourable place, the water being 2 feet above low stage, giving a discharge of 7,557 cubic feet per second; the bed was in boulders. In the eighth mile is a rapid by a midstream bar just above Cummins creek, a large mountain stream entering on the right bank; the river is very narrow at the creek and fast and rolling below; the fall in this mile is 12·5 feet. In the ninth mile there are two rapids, the one at the lower end being very bad; the fall for the mile is 25·2 feet. The river falls 13·6 feet in the tenth mile, at the end of which are Mink rapids. The eleventh mile is mostly good

water with a fall of 8·7 feet. The twelfth mile, with a fall of 20·2 feet, ends just below Yellow creek, and includes Weasel rapids. Near the head of the thirteenth mile are Yellow Creek rapids, and below is a long stretch of easy water; the river falls 9·2 feet. The fourteenth mile has a fall of 9·9 feet, and except for about a quarter of its length, around profile station 710, is in good water. The fifteenth mile ends at the head of the Red Canyon rapids; there is broken water among boulders half way, and the fall is 8·1 feet. From mile fifteen to the end of the survey there is much bad water; in the Red Canyon rapids the river is very narrow at the lower end, with reef rock in the bed, rock bluffs on the right bank, and a heavy boulder beach on the left; the Red Canyon itself is at the foot of the rapids, and the water there is deep and eddying.

At the tail of the survey is a rapid over boulders, and probably reef on the right bank; the fall in this section is 16·2 feet. About one mile below the end of this survey is a bad little rapid over a gravel and boulder bar on the right, with heavy swells running into the left bank, which is in rock. Below here is a second canyon with still water, and from the end of this canyon to the head of the Canoe river survey the river is fast between boulder bars and beaches with short pitches at intervals; the banks become flatter all the way. The distance between these surveys is 2·2 miles, and the fall 21·3 feet, approximately 9·7 feet to the mile. Lack of time prevented our tieing this work through.

The survey referred to as the Canoe River survey takes in three miles of the Columbia river at the apex of the bend. The river runs over wide gravel and boulder flats, the main channel follows along the right bank, making a sharp turn at the mouth of the Canoe, from which point to the left main bank, south of the last high water channel, is a distance of 4,200 feet. In the main channel, at the actual bend, are moving bars of gravel; the tendency of the current is to follow the right bank and undermine at the mouth of Wood river. The flat country extends up the Canoe and Wood rivers for some distance. Below the mouth of the Canoe, about 1,600 feet, bed rock crops out in the right bank, and from here past the mouth of Camp creek there are heavy boulders and rocks in the bed. A cross-section was taken in a favourable place, when the river had again become concentrated in one channel; this gives a discharge of 7,910 cubic feet per second with the river one foot above low stage. Skeleton traverse was run on down for about 7,500 feet below the cross-section, taking in two small rapids, the upper one at a decided double channel, being shoal over gravel and boulder bars, and at the lower with white water over sunken rocks, which may be reef; the mountain benches come to the river again on the left bank at the upper of these rapids. At the lower end of the survey is a rock island in the river, on the stream side of a big shore bar of boulders and gravel; this rock, which is approximately 20 feet above low water, is interesting on account of a boulder worn chimney hole from the top down to a cavity in the side, indicating that at some period it was completely submerged at all stages of the water; there are now a few trees growing on it. The fall throughout the length of this survey is 29 feet, of which 19 feet is in the upper half; the sharpest grade is at the actual bend and down to Camp creek, where, in 3,700 feet, the fall is 12·4 feet.

Immediately below the Canoe River survey is a big bay full of rock islands. Five and a quarter miles below, the river enters a gorge between steep hills, where is a rapid with rocks in the channel, notably one in midstream below the foot. Below are several riffles, and at 11 miles are bars and high-water islands, among which the river is fast. At 12·5 miles the river is very shoal; below here, to 15½ miles are big bars with bad water among stream rocks at their tail. At Maloney creek, on the right bank, at about 17 miles, the river is shallow over heavy boulders, and for two miles below are high-water islands. At 21 miles are big bars with rapids. At 22 miles, and for 2¾ miles below, are high-water islands, the river is fast and shallow among them to above

Big Mouth creek on the left bank. At 27¾ miles are big bars for about one mile. At 29½ miles is the head of our Gordon Rapids survey. Between the Canoe and the Gordon Rapids surveys the river falls 122 feet, an average of approximately 4·1 feet to the mile.

The Gordon Rapids survey takes in 2·7 miles of the river, and may be roughly divided into three sections: The first 3,600 feet, the main channel follows the left bank among gravel bars, the right bank forms a bay in which is a big bar of small boulders, gravel and sand, with a back channel; the distance between main banks at the widest part is 2,000 feet. The river is fairly fast over gravel bed and falls 4·8 feet. The second section, 3,700 feet, the river is in one channel, at first between rocky shores, the left bank being bluffs 400 feet high; the right is low bench, the bench on the left tails away below the bluffs. Near the lower end, Gordon creek enters on the right, and opposite; the left bank is in solid rock extending well into river close to water level; a few small ridges, rising above, form low rock islands about 5 feet high. The river is still and deep until the lower end is reached; here the surface starts to fall and the water becomes shallower over heavy boulders; the fall throughout is 1 foot. The third section, 6,800 feet, comprises, near the head, the low stage actual drop of Gordon rapids and a great widening of the river below among large gravel and boulder bars, there being two channels, a small one on the left bank, while the main river follows nearer the right. The left bank is high bench land tailing away from 200 feet high near Davy creek to 40 feet and less at the lower end; the right is sandy flat at first, giving place to bars at the foot of a rocky hill. The drop is over heavy boulders with a fall of 4·3 feet in 400; below are eddies and deep water past Davy creek, thence very fast by midstream bars, falling 3 feet in 450. Below, the water is fast and shallow over boulders and gravel to the end of the survey, there being a fall of 11 feet in 4,700; at the end, the river is again in one channel. At high water these rapids become worse, the bad water starting near Gordon creek, the river backing up in the narrow channel above, and having ample opportunity to spread below the drop.

Below this survey, one mile, there is a big bar on the right bank with the river narrow and fast on the left. After passing bars and a few shoals, there is a rough place over boulders at 3¼ miles. At 5¾ miles the water is fast and rough around a big bar on the left bank, at the tail of which are creeks and cabins on both banks. Smith creek enters on the right, 7¼ miles down, and just below Gold river, from a rock canyon on the left; half a mile below here are rocks and boulders in the stream. At 8½ miles the river is rough and the left bank rock; a little further there is a rock outcrop in the water to the right. At 10½ miles the river is fast and shoal over loose rocks and boulders, at the tail of a left bank shore bar; below are more bars, the current continuing fast. There is a bad place, with island bars and sliding banks both left and right, at about 13½ miles down, where the river is shallow, fast and rough; below it narrows between high banks, and at 15⅝ miles the Twelve-Mile, Death and Priest Rapids survey commences. Between the survey at Gordon rapids and Twelve-Mile the river falls 90·9 feet, very approximately 5·7 feet to the mile. This last survey covers 2·55 miles, from a little above Twelve-Mile to the foot of Priest rapids.

The head of Death rapids is at 1·6 mile and the head of Priest at 2·3. Twelve-Mile rapids, over heavy boulder and rock bed, drown completely in high water, the river backing up in the gorge below. The river is narrow between steep mountains, especially from profile station 45 to 107; the banks alternate steep bluffs, crumbling cliffs rockslides and sliding hills. Above Death rapids for a quarter of a mile, the river, at the time of survey, averaged about 120 feet wide, being in places less than 100; below the bay and bar opposite the first benchmark the water is deep, but its course is obstructed by rocks to near water surface in many places. At Death rapids is a widening between the main banks and a heavy boulder bar on the right shore; the left bank immediately at the rapids is crumbling cliff about 500 feet high. The profile of

the water surface must change completely at different stages; during our stay, the fall in the first 2,100 feet, including Twelve-Mile, was 8·7 feet. In the next 6,400 feet to the head of Death, the fall was 15·8; in these rapids the fall was 6·4 feet in 550; they comprise two drops: at the break of the first, the actual width of the stream in the clear between rocks was about 80 feet; there is an exceptionally heavy swell; the second drop, about 350 feet below the first, is a little wider; both are apparently over heavy loose rocks and boulders. Below these rapids the left bank is largely bluff, averaging 200 feet in height, surmounted by benches; the right is sliding hill and crumbling rock. Six hundred feet above Priest rapids the hill on the right recedes, leaving low benches at the edge of the river; the left bank also is lower and the river widens considerably. Priest rapids were found in the nature of a cataract over a mid-stream boulder bar, the deeper water being on the right, but as this shore from the head of the rapids is in rock and there are reefs in the river, the water was very wild and dangerous. The fall from below Death to the head of Priest is practically one foot in 3,100 feet; in the rapids themselves there is a fall of 8·3 feet in 1,000, the greater part being at the upper end. At the tail of the survey, a shelf of reef rock, just below low water, runs from the left bank to nearly the middle of the river, which is still and quiet.

Below Priest rapids to past Boyd's ranch the river is generally wide, often shallow, and there are many big bars. At Rocky point there is a drop and white water over a reef which runs across the river, and below are big bars and fast, shallow water. About 12 miles below Priest rapids, at the foot of sand slides on the left bank, the channel is badly broken up by bars. Just above Carne's creek at the north boundary of the railway belt, in a very wide place, the river, divided among large bars, is very fast and shallow. Below Carne's creek are several low-water riffles, and at the head of Revelstoke canyon there is much rough water; the approach to the canyon is crooked, but the water is deep. Between the canyon and the railroad bridge at Revelstoke, the river widens out and is generally good.

In the foregoing remarks the fall of water surface given for those portions of the river actually surveyed is taken from the accompanying profiles, which show one stage of the water at the time of each survey. The fall given for between surveys has been taken, to avoid confusion, from the sheet of 'Collected Data for the Big Bend Profiles,' and is that of our deduced low water. The accuracy of through-going fall depends entirely upon C. P. Ry. levels, the equations given were kindly supplied by their engineering department. There is some uncertainty as to the exact difference between the datum of the preliminary lines and 'Donald,' the former being referred to old track levels, since discarded. Full information is given on the sheet of collected data already referred to.

### *Concluding Remarks.*

From the description given in this report, and particularly also from the accompanying plans and diagrams, it is hoped that a just idea can be formed of the conditions at present obtaining in the 'Big Bend' of the Columbia river. The question of improvements for navigation presents serious problems of method and expenditure, principally on account of the great fall in the river surface. To provide a consecutive series of even navigable grades and cross-sections by alterations to the existing bed is entirely out of the question. In certain places, as for example at Surprise, parts of the Long rapids and probably Priest and Twelve-Mile, locking appears to be the only solution. In other places, such as Donald canyon, the river above Kitchin's rapids, and again parts of the Long rapids, blasting off points of rock and submerged reef would be necessary. In Kitchin's rapids, Gordon rapids and at Canoe, a combination of dredging and blasting would be required. Extensive systems of protective and channel controlling works in form of dams, in conjunction with dredging, would be needed at Canoe, Gordon rapids and in many unsurveyed places, such as the mouth of Sul-

livan river, at the south end of Kinbasket lake, where a navigable channel, once established, could be better maintained by turning the Sullivan northerly, close to and parallel with the east shore of the lake. Further, unpreventable slides and falling of cliffs at Death rapids are possible at any time, making this perhaps the worst place on the river. In common with all rivers flowing through a mountainous country, there are two perpetual sources of trouble: incoming dirt from the numerous tributaries and drift-wood, of which, in some years, great quantities must be present, judging from the fact that the big islands at the mouth of Canoe are practically built on old log-jams. A large initial expenditure would be incurred in laying down materials and plant, as these would have to be taken over the river in its present condition. The prevailing idea that the opening of the Columbia river for navigation would provide an economical route for the shipment of grain from the northwest provinces to the year-round ports of the Pacific coast, is open to many grave objections, the principal one being that an immediate solution of the present congested state of transport is required.

Long before the river could be rendered commercially safe, two additional Canadian transcontinental railroads would be in operation and the existing third presumably double-tracked throughout its western section, which alone would enormously increase the present carrying capacity. The methods of transport adapted to a fast and winding river would always be liable to risks, and consequently high rates of insurance. It is unlikely that return freight would be at all in proportion to that going down, and boats and barges would be obliged to undertake the long upstream journey at a dead loss. The gravest objection of all is that final shipment would be made from a foreign port, and terminal charges of all kinds lost to this country. On the other hand, railway carriage would assure these great and growing advantages to home ports. Setting aside through freight, there is the possibility of providing the means of access to land and timber; of the former there is comparatively little; there are occasional river flats, notably at Bush river above Surprise rapids, at the south end of Kinbasket lake and the mouth of Canoe river; all these would need draining; of the bench lands it is impossible to judge; there is a reported prospective settlement at Gold river, back from the Columbia. The only actual settlers encountered before 'Boyd's Ranch' were two men living on opposite sides of the river at the creeks above Smith creek, but they appear to be miners rather than farmers. There is beyond question much timber on the 'Bend,' at present valueless for lack of transportation. A railway would serve all interests best; timber could then be cut at central points adjacent to the limits and shipped direct, avoiding expensive driving to mills near the C. P. Ry. Travel and the freighting of ordinary outfits could be facilitated by building a good portage road at Surprise rapids. A road, which would be very advantageous, around Twelve-Mile, Death and Priest rapids was at one time considered by private interests, but probably owing to the difficulties involved, was never built. Long, stoutly built boats manned by capable men should be able to run the most of the bad water always excepting Surprise rapids, and providing that the river was not too low; but no ordinary measures would suffice to make a competitive route of this waterway. Much more might be said, and much fuller, and in consequence more confused, information given on these and other points, but enough evidence would seem to have been brought forward to show that the improvement of this one portion alone of the Columbia river is an undertaking of heroic proportions, calling for enormous expenditure of time and money.

### COMAPLIX.

Comaplix is situated on an arm of the Upper Arrow lake, eight miles from Arrowhead at the head of the lake. It is a saw-mill and lumbering town exclusively, with a population of 300. A contract was let to Messrs. S. Mills and H. S. Beharrell for the construction of a pile and timber wharf, for the sum of $7,990.

Work was commenced on November 4, 1912, and completed on January 25, 1913.

The wharf is 275 feet 6 inches long and 32 feet wide. The upper 35 feet 6 inches is level; 204 feet are on a grade of 1 in 12, and the outer 36 feet are level, and at a height of 4 feet above low water level. The total cost of the work was $8,402.50.

COQUITLAM RIVER.

Work was started on November 1, 1912, on the removal of log jams and drift from the channel of the Coquitlam river, and was closed down on December 27, 1912.

This work consisted in blasting and burning logs and drift wood that is brought down the river during the freshets, which form jams and divert the current of the river, causing the banks to wash away.

The total expenditure amounted to $1,000.96.

COTTONWOOD POINT—COLUMBIA RIVER.

On April 4, 1912, the departmental dredge *Naiwsp* began operations off Cottonwood point, in the Columbia river narrows, about one half mile below Burton city, and continued work until May 18, when high water rendered it necessary to abandon work. During this time, improvements were made at three different places in this part of the channel. These improvements have a total length of 1,124 feet, widths of from 40 to 90 feet, and a minimum depth of five feet at low water stage. The material moved, which amounted to 16,885 cubic yards, was composed almost entirely of sand and gravel, all of which was overcast. The total cost of the above operations was $1,619.13.

DEER PARK.

Deer Park is a farming and fruit-growing settlement on the east side of the Lower Arrow lake. The present population of the district is about 200, but as the available land is being subdivided and put on the market, the population is increasing rapidly.

The construction of a pile and timber wharf at this place was done by day labour, work commenced on October 4, 1912, and completed on February 22, 1913, the total cost being $6,466.99.

The wharf consists of a pile and timber structure 378 feet in length and 32 feet in width; the upper 56 feet is level and at a height of 2 feet above high-water level; the adjoining 28 feet is on a slope of 1 in 12 and the remaining 294 feet is on a slope of 1 in 10½ to 5 feet above low-water level. A shelter, 12 by 16 feet, of ordinary frame construction has been placed at the upper end of the wharf.

ESQUIMALT.

On May 23 the dredge did some private work for the Esquimalt and Nanaimo Railway Company (C.P.R.) along the east side of their oil wharf in Esquimalt harbour. This was deepened to 24 feet at low tide, and 6,750 cubic yards of clay and mud were removed, for which they paid $1,060, being 10·6 days' work for the dredge at $100 per day.

FRASER RIVER.

*Dredging.*

The dredge *Fruhling* was employed dredging the main channel through the sand heads, and at the lower end of Woodward's slough. The latter work was done in connection with the wing dams that were being constructed to straighten the channel, and the dredge worked on the bar opposite.

The total amount of material removed from the channel was 133,600 cubic yards of sand from between No. 9 and No. 11 black buoys; 226,000 cubic yards from the new channel which is developing to the north of the present channel, leaving it just above No. 11 black buoy; 7,400 cubic yards of sand were removed from the bar of the channel leading up to Ladner, and 561,600 cubic yards from the bar opposite the lower end of Woodward's slough.

The total amount of material removed by the dredge *Fruhling* during the year ending March 31, 1913, was 926,000 cubic yards.

With regard to the size of the channels dredged by the *Fruhling*, the work done between No. 9 and No. 11 black buoys consists in the removal of the shallowest places in the channel, as these sands are always shifting, the dredge works in the shoalest places. The distance between these buoys is about 2,500 feet, and we try to keep the channel about 500 feet wide.

The work in the new channel that is developing from No. 11 black buoy straight out to deep water was done in the same manner, the dredge working over the shoalest areas, that is near No. 11 black buoys and at the mouth of channel where the water is very shoal (about 6 feet at low tide).

The idea of this work is to assist in opening up this new channel, which has developed during the last two or three years. The work at the lower end of Woodwards slough consists in cutting off the point of the bar opposite the wing dams that have been constructed to ease the turn in the channel at that point.

From June 6 to July 3, the dredge was working on the north arm of the Fraser

From June 6 to July 3 the dredge was working on the north arm of the Fraser river, and commenced immediately below the north bridge, about five miles below New Westminster. The channel cut here was 150 feet wide and 8 feet deep at low tide, and about 3,300 feet long, and 80,300 cubic yards of material were removed.

From July 3 to 7, work was done at Millside for the Fraser River Mills, for which the Canada Western Lumber Company paid $550, being 2⅔ days work for the dredge at $150 per day, and 9,000 cubic yards were removed.

On October 21, the dredge returned to the north arm and completed the cut below the north arm bridge. The work done was cutting a channel 1,200 feet long, 150 feet wide, to 8 feet at low tide, and 51,500 cubic yards were removed.

*Training Pier.*

A contract was let to the Sinclair Construction Company to build the first 6,900 feet of this training pier from Steveston, in a westerly direction, across the sand heads at the mouth of the Fraser river.

Work was started on April 19, 1912, and on January 20, 1913, the contractors stopped work on account of ice in the river, but before they could start up again they assigned to the Westminster Trust Company.

About 55 per cent of the work has been done.

NICOMEN SLOUGH DAMS.

The work done on the Nicomen slough dams, this year, consisted in the completion of dams Nos. 2, 5 and 6, and work was closed down at the end of May, 1912.

No. 2 dam is 470 feet long on the top and 346 feet long on the bottom. The top is 12 feet wide, and the average height is 17 feet. The slope is 3 to 1 on outside and 2 to 1 on the inside. The total amount of material in this dam is 12,900 cubic yards.

No. 5 dam is 160 feet long on the top and 130 feet long on the bottom. The top is 12 feet wide, and the slopes 3 to 1 on the outside and 2 to 1 on the inside. The average height is 15½ feet, and the total amount of material in the dam is 6,400 cubic yards.

Most of the work on these dams, Nos. 5 and 6, was done during the year 1911-12, but they were completed at the end of May, 1912.

Dam No. 6 was begun during the present year. This dam was 174 feet long, and 12 feet wide on top. The slopes are 3 to 1 on the outside and 2 to 1 on the inside, and the average height is 9 feet. There are 1,200 cubic yards of material in this dam.

During high water, a small leak developed in dam No. 5, and this was stopped by placing gunny sacks filled with sand over the leak.

The total expenditure was $4,293.20.

*Samson.*

The snag boat *Samson* removed 301 snags from the river; attended to the buoys marking the channel of the Fraser river, and making the necessary surveys that are required from time to time, including a survey of the north arm of the Fraser river from New Westminster to Gulf of Georgia.

The *Samson* did 34 days' work during the year, looking after the buoys marking the channel, which is charged to the Marine Department, and amounted to $2,045.

During April and May of last year, the cost of the snag boat was charged at $50 per day, but it was found that this amount did not fully cover the running expenses, and after June 1, $65 a day was charged.

The total expenditure on Fraser river (Lower) appropriation was $32,978.11.

GARRY POINT.

Some small repairs were made to the Garry Point work in the shape of putting some extra work on the mattresses where necessary. In all, 314 tons of rock were placed there at a cost of about $520.

GOLDEN.

Golden is a lumbering, farming and railroad town on the main line of the Canadian Pacific Railway, 475 miles from Vancouver. It is the supply point of the Upper Columbia valley, and one of the largest saw-mills in the province is situated there. Population, about 700. It is the northern port for steamers plying on the Upper Columbia river, whence they run south to Windermere, a distance of 100 miles by water.

Work was commenced on August 19, and was completed on December 20, 1912.

The original plan was for a wharf 40 feet by 100 feet, the first 40 feet to be level and the remaining 60 feet to be on an incline. Lack of room prevented the adoption of this design and the centre portion of the wharf has been built level, with slips on either end, suspended on cables and lowered or raised by winches to suit the varying stages of the water in the river, which, at this point, has a range of nine feet between high and low water stages.

The total cost of this work was $3,641.81.

GOOSE BAY.

Goose bay, later named Granby bay, Observatory inlet. At this place, a pile wharf 40 by 60 feet with an approach 125 feet long and 14 feet wide was constructed by Mr. W. G. Gillette, of Vancouver, under a day labour agreement. This wharf is located at a point where very active development is taking place owing to the construction of a large smelter by the Hidden Creek Copper Co. It serves a large number of prospectors and settlers in the immediate locality. It has 20 feet of water along its face at low tide and is located in front of the only available townsite in the harbour.

The work cost, when completed, $3,511.04.

GORDON ROAD.

Gordon Road wharf was started on December 6, 1912, and was completed on January 7, 1913, and cost $1,530.75.

GOWLAND HARBOUR.

It was considered that a float would be cheaper and more convenient than a wharf for the settlers at this point, and so a float, 22 by 44 feet, was built with a floating approach 6 by 344 feet long. A small shed, 10 by 16 feet, with 8-foot walls, was built on the float to accommodate the public, and to protect freight in bad weather.

The cost was $1,995.00. Twenty piles were driven to keep the float and approach in position.

Messrs. James McDonald & Company built this float at a fixed price for piles driven in place, and lumber in place at $35 per M., and cedar logs at $40 each, and piles at $35 each in place.

GREEN'S LANDING.

Green's Landing wharf was started on January 7th, and completed on March 14th. For about three weeks, work was closed down on account of ice in the river during the month of January. This wharf is 50 by 50 feet, with a slip 84 by 12 feet, an approach 132 by 15 feet, and a shed 24 by 16 feet, and cost $2,385.70.

HARDY BAY.

The following repairs were done to the Hardy Bay Wharf by Messrs. James McDonald & Company, who were given the work to do at a fixed price of $36 per pile driven in place, and $36 per M. for lumber in place, including fastenings, etc., 36 main bearing piles were driven, and 2,500 feet of sway bracing put in, and a freight shed 12 by 20 feet, was built on the wharf. The cost was $1,483.

This work was commenced on July 26, and completed on August 3, 1912.

The size of this wharf is 40 by 100 feet, and the approach is 16 by 160 feet.

HARROP.

Harrop is the centre of a very large and prosperous fruit-growing and farming settlement on the west arm of Kootenay lake, eighteen miles from Nelson.

A pile and timber wharf was built at this place in 1911, but the rapid growth of the settlement necessitated the enlargement of this wharf in 1912 and it was therefore decided to widen it from 24 feet to 32 feet, and to lengthen it from 240 feet to 270 feet.

The work was done by day labour; work was commenced on April 1, 1912 and completed on May 30, 1912, at a cost of $1,689.15.

HATZIC.

Work at Hatzic wharf was commenced, and occupied the *King Edward* until after the end of the year.

*Dredging.*

The dredge *King Edward* was moved to Hatzic wharf to deepen the approach which has silted up lately. This cut was made 750 feet long, 150 feet wide and 8 feet at low water, and 21,650 cubic yards were removed up to March 31.

HOLBERG.

A contract, dated December 19, 1912, was let to R. H. Wood, of Alberni, for the construction of a wharf at Holberg, for the sum of $12,657.

On March 31st, 101 piles were driven, and 15,000 feet of piles were delivered on the ground.

After the contract drawings were made, the provincial Government built the road farther down the west arm of Quatsino sound, where Holberg is situated, and the location of the approach was changed to suit the new location of the road, and the length of the approach was reduced from 2,940 feet to 2,270 feet.

HUDSON BAY GARDENS.

At this location, some six miles below Fort George, the Fraser is very shallow throughout its entire width and much trouble has been experienced by steamers in safely navigating this channel. Owing to the swift water and very many boulders lying in stiff clay, it has been a difficult matter to improve conditions entirely. However, a channel 1,000 feet long, on a located range, was cleared of boulders to a depth of 3 feet below low water level. About 150 cubic yards of rock was blasted and removed by scow, a gang of 9 to 11 men being employed from October 28, 1912, until December 28, 1912.

FORT GEORGE CANYON.

At this channel, some 13 miles below Fort George, two large boulders, which had caused considerable trouble in the past, were blasted to a depth of four feet below low water level. About 62 cubic yards of rock was blown into deep water and conditions generally improved.

KAMLOOPS.

Kamloops is a city of about 4,000 inhabitants, situated on the main line of the C. P. Railway at the junction of the north and south branches of the Thompson river.

In addition to the numerous launches, there are three fair-sized freight and passenger steamers in constant service on the two branches of the river, during the season of navigation, and regular tri-weekly trips are made between Kamloops to Chase and the various points of call on Shuswap lakes.

The wharf approach is 48 feet long and 24 feet wide and at the outer end is a wharf head 60 by 32 feet, having an incline slope 60 feet long and 8 feet wide along the front face.

Pile bents were driven at 12 foot centres and surmounted by a superstructure consisting of 10 by 12 inch caps and stringers, 3 by 12 inch joists and 3-inch decking.

The wharf was completed on February 28, the whole of the appropriation being expended, together with the additional sum of $76.24, which expense was incurred in transportation of plant from Sicamous to Kamloops.

The expenditure for the fiscal year 1913 is $3,576.24.

KENNEDY LAKE IMPROVEMENTS.

The following work was done towards the improvement of the conditions for settlers and prospectors who have occasion to get from the water of Clayoquot sound into Kennedy lake: A number of rocks were blown out of the river over the rapids, which leaves a good channel 30 feet wide for boats going down the river. A trail was built for 750 feet along the bank of the river, and the remaining 685 feet of old trail was much improved.

The object of this work is to enable goods to be portaged over the rapids and boats to be towed upstream, when light, and loaded again on reaching the lake.

Work was started on August 1, and was closed down on October 2, 1912.

The total expenditure on this work was $1,484.50.

KINCOLITH.

Kincolith, Observatory inlet, at the mouth of the Naas river. This wharf was built on the site of an old one which was so badly eaten by *teredos* that it could not be used. It was considered of no value, and was in consequence torn down and a new structure built in its place. The new wharf is a pile bent structure 40 by 60 feet, with an approach 140 feet long and 14 feet wide. It has 20 feet of water along its face at low water. It was built by Mr. W. G. Gillette, of Vancouver, under a day labour agreement. Cost of wharf, complete, $3,497.46.

KOOTENAY LANDING.

Kootenay Landing is situated at the south end of Kootenay lake and is the port for daily steamers plying to Nelson and other points on the lake. It is the western terminus of the Crowsnest line of the Canadian Pacific Railway; all through passengers and freight over this line are transferred to steamers or barges there. On account of wharfs and transfer slips being immediately at the mouth of the Kootenay river, a large amount of silt is deposited in the channel annually, and dredging is necessary to keep navigation open. The result of the work done up to this time is that the channel is in very fair condition, and in a few more seasons it will be such that only an occasional removal of the annual deposits of silt will be necessary.

The departmental dredge *Bittern* was employed from April 1 until May 13, 1912, and again after high water season from September 7, 1912, until March 10, 1913, in making a series of cuts at Kootenay landing, to provide a channel with a minimum depth of 12 feet at low-water stage. These cuts were 40 feet in width and had a total length of 5,900 feet, and in addition she made one cut around the swing dolphin, this cut having a radius of 200 feet and covering an angle of 125 degrees. The material moved was sand and hard clay which was taken half a mile into deep water on dump scow. The total yardage moved was 51,655 cubic yards at a cost of $14,295.86. The dump scow was towed by the tug *On Dot*, of Nelson, owned by Captain F. Cogle, a rental of $27 per day being paid.

LADNER.

Work was started on Ladner wharf on August 7, 1912, and was completed on September 12, 1912. This wharf is 70 feet wide by 130 feet long, without an approach or shed, and cost $2,303.42.

*Dredging.*

From July 11th to August 19th the dredge was working at Ladner's landing clearing out the channel leading to the public wharf. This channel was 150 feet wide, 1,900 feet long, and 10 feet deep at low water, and 57,700 cubic yards were removed.

On August 20th the dredge did one day's work for the Canada Fish Products Company, and removed 2,000 cubic yards of sand from the face of their wharf, for which they paid the department $165.75.

LADYSMITH.

The following repairs were made to Ladysmith wharf: Twenty-four piles were driven and bolted in place under the approach; a float, 17 by 44 feet, was built alongside the approach, together with a gangway, 4 by 30 feet, leading to the main wharf, for the convenience of small boats; 2,500 feet of lumber was used in putting in sway braces, etc.

The total cost of this work was $1,158.59, of which $504.19 was used for work done during the fiscal year 1911-12.

This work was commenced on July 13, and completed on August 5, 1912.

This wharf is 38 by 100 feet, and the approach is 340 by 14 feet.

LANGLEY.

On November 9th the dredge *King Edward* was moved to Langley, and two cuts were made, one 2,700 feet long by 150 feet wide to 9 feet at low tide, and the other 1,700 feet long by 100 feet wide and 9 feet at low tide. A total of 154,920 cubic yards were removed. This work was completed on March 12th, when the dredge was moved to Nicomen slough.

LITTLE RIVER.

This river, of length about two miles, joins the Shuswap lakes, thus forming the connecting waterway between the South Thompson river and the Shuswap lakes.

The improvements which have been effected on the South Thompson river must then necessarily be continued on the Little river, in order to provide through steamboat facilities between these lakes.

On October 8th, on completion of the work at Shaws Bar, as described under South Thompson river, the dredge *Pelican* was towed to Little river.

A channel 325 feet in length and 80 feet in width was dredged through the upper ford to 4.5 feet below low water level by the overcasting of 18,082 cubic yards of sand and clay.

From December 9th until March 30th, the dredge was employed at the mouth of Little river; a channel 900 feet long, 120 feet wide, being dredged to 4.5 feet below low water level by the overcasting of 29,445 cubic yards of sand and gravel.

MASSETT.

Massett, Graham island, Queen Charlotte islands, an Indian settlement. The work at this point consisted of completing the approach to wharf built in 1911 which was left unfinished on account of a lack of sufficient funds. An addition, on piles, 37 by 34 feet was also built making the original structure 74 by 68 feet. It has 20 feet of water along its face at low tide. It was built by Mr. H. Edenshaw, under a day labour agreement. Cost, when complete, $1,069.90.

Massett, Graham island, Queen Charlotte islands, the white settlement. Survey was made and plans and specifications were drawn for a pile wharf at this point 40 by 80 feet with an approach 410 feet long by 14 feet wide. The contract was let on November 20, 1912 to Mr. W. G. Gillette, of Vancouver, for $4,875. This wharf will have 20 feet of water along its face at low tide when completed. Owing to bad weather, which has prevailed since the contract was let, it has been impossible to complete the work at this date. The lumber and plant are on the ground, and it is confidently expected that the work will be completed not later than May 15, 1913. This wharf is at the town of New Massett and will serve the many settlers that are rapidly taking up the land along Massett inlet and in the interior of the island. This location is the centre from which all supplies and necessities are purchased, and delivery taken. It is also the shipping point for much produce, fish and lumber.

The expenditure, to date, consists of survey and travelling expenses which amount to $70.

MATSQUI.

From April 1 to April 25, a small amount of work was done at Matsqui, which consisted in finishing up some protection work near the Government wharf and groins that were built in 1910. The expenditure on this work was $2,126.97.

This work was started on March 12, 1912.

MCIVOR'S LANDING.

McIvor's Landing wharf was started on November 12, and completed December 5, 1912, and is 40 by 40 feet with a slip 68 by 12 feet, approach 50 by 14 feet, and shed 14 by 20 feet, and cost $1,863.45.

METCHOSIN.

A contract was let to Messrs. James McDonald and Company for the construction of a wharf at Metchosin for the sum of $4,837. This work was commenced on October 9, and the wharf was completed on November 27, 1912.

The main wharf is 40 by 60 feet, and the approach is 435 by 14 feet. The shed is 12 by 20 feet, and slip is 12 by 16 feet.

The total cost was $5,119.92, which included $282.92 for extra bracing, which it was found necessary to put in at the shore end of the approach, as the drift wood, during a heavy storm, knocked the original diagonal off. The new bracing was put on just above high water mark, and has answered the purpose for which it was put in.

MILL BAY.

Work was commenced on Mill Bay wharf on July 24, and it was completed on October 14, 1912.

This wharf is 40 by 60 feet, with an approach 14 by 240 feet. There is a shed on the wharf 12 by 20 feet. A float, 20 by 38 feet, was built for the convenience of small boats, with a gangway 4 by 36 feet, leading to the main wharf, and a small shed on it 10 by 14 feet.

The total cost was $2,615.88.

MIRROR LAKE.

Mirror lake is the centre of a farming and fruit-growing district on the west side of Kootenay lake, four miles south of Kaslo. The present population is about 150, and this is increasing rapidly. Mirror Lake is also the main supply point for ice for the adjacent towns, over 100 carloads having been shipped out during the past winter.

The wharf, which was built by day labour, is a pile and timber structure 252 feet long and 32 feet wide. The upper 42 feet is level and the outer 210 feet is on a grade of 1 in 12. The inner end of the wharf is 21 feet above low water level and the outer end is 3 feet 6 inches above the same.

A shelter, 12 feet by 20 feet has been placed beside the upper end of the wharf.

The total cost of the wharf was $6,081.12.

MURPHY'S LANDING.

Murphy's Landing wharf was commenced on September 23, 1912, and was completed on October 31, 1912. This wharf is 36 by 40 feet, with a slip 80 by 12 feet, and an approach 108 by 14 feet, and a shed 14 by 20 feet, and cost $2,264.

NAAS RIVER.

Nass river, about forty-five miles from its mouth, is a canyon in this river about a mile and a half long. At the foot of this canyon were four very large and dangerous rocks, which interfereed seriously with navigation. During the past season, these rocks have been blown out and navigation is greatly assisted. In this connection it may be said that at the head of the canyon are five more very dangerous rocks which should be moved in order to make navigation of the canyon safe.

Expenditure to date, $1,993.91.

NANAIMO.

The following repairs were made to the Nanaimo wharf: A new flooring was put on the approach, and the guard and handrail was repaired at a cost of $96.58.

This work was commenced on August 19, and completed on August 21, 1912.

*Dredging.*

On June 21st, the dredge *Ajax* was moved to Nanaimo, and from June 25th to September 11th, 43,780 cubic yards of mud were removed from in front of the Vancouver, Nanaimo Company's coal wharf. This dredging was done to 15 feet at low

tide to enable steamers to load coal at all stages of the tide: and 3,360 cubic yards of debris, coal, etc., were removed from in front of the Western Fuel Company's wharfs and the Farmers' Landing, which is the local name for the Government wharf.

Some 9,775 cubic yards of sand were removed from the south channel, near No. 3 buoy.

The cut made in front of the Vancouver Nanaimo Coal Company's wharf in Nanaimo harbour was 800 feet long and averaged 150 feet wide, and the depth of the cut varied from 1 to 18 feet; average about 8 feet.

The work done along the face of the Western Fuel Company's wharfs consisted in cleaning up the coal and debris which falls overboard from steamers loading coal, and no actual dimensions can be given, as there were only high spots here and there, principally near the coal chutes, etc.

The work done opposite No. 3 buoy consisted in removing a shoal on the south side which had been gradually working out into the channel. This cut was about 350 feet long by 120 feet wide, and averaged 5 feet face of cut.

The Pacific Coal Company's wharf at Boat harbour was cleaned up, and 575 cubic yards of material removed, and the dredge returned to Victoria on September 16.

The work done along the face of the Pacific Coal Company's wharf at Boat harbour consisted in cleaning up the debris, coal, etc., that had fallen over when boats were loading, and no actual dimensions can be given. The whole of the face of the wharf was gone over, but very little material could be removed, as the bottom is rock.

### NECHACO RIVER.

Foley, Welch and Stewart, Grand Trunk Pacific Railway contractors, employed a gang of about 14 men for about two months, improving the channels at 'White Mud,' 'Isle de Pierre,' and several other bad locations in the river. The rest of this work was seen by Asst. Engineer Mathewson on his trip up the Nechaco, the improvements in hand at the time being nearly completed. It was the intention of the firm's representative, on completing the above work, to rush his gang to Giscombe rapids on the Fraser to make further improvements there, so that the contractors' steamers could more safely navigate between Tête Jaune Cache and Stuart river during next season's high water stage.

### NICOMEN SLOUGH.

#### *Dredging.*

The dredge *King Edward* was moved to Nicomen slough, where a small cut was made at the mouth of the slough to enable steamers to get up to the wharf. This cut was 800 feet long, 100 feet wide and 6 feet deep at low water. This work was completed on March 19th, and 13,960 cubic yards were removed.

### OKANAGAN RIVER.

#### *Protection Work.*

This river, about five miles in length, connects Upper and Lower Okanagan lakes. The object of the protection work being to prevent the erosion of banks and to confine the channel within such bounds as would facilitate navigation.

The *Heron* is a combination dredge, derrick scow and pile-driving outfit, being used as necessity arises for each of these purposes.

About 2,000 lineal feet of bank protection work was constructed at various locations along the river bank. Piles are driven, in pairs, along the face of the bank at 8-foot centres, the intervening spaces being packed up with brushwood and back-filled

with earth, etc. Some 275 lineal feet of piling has also been renewed in parts of the old work.

The breakwater, at the mouth of Okanagan river, as originally constructed, was of an experimental character, and light material was used in order to keep down the cost. It has, however, proved its effectiveness in forming a protection to the mouth of the river and in order to make a more permanent structure of it, additional main piles have been driven at 8-foot centres along the outer 250 lineal feet, of breakwater, in order to form a backing for the sheeting.

The expenditure for the fiscal year 1913 is $4,814.70.

*Dredging.*

The range between the stages of high and low water is about 4 feet, extreme high stage usually occurring about the middle of June, and extreme low stage occurring about the end of March.

From 1st April to 14th May, the *Heron* was engaged in deepening the main channel near the municipality of Penticton, the weekly reports showing cuts aggregating 1,822 feet long and 30 feet wide having been made to a depth of about 3 feet below low water level, 3,589 cubic yards of sand and gravel being overcast.

On May 14th, owing to the high stage of water, dredging could not be continued to advantage, with the exception of 28 days during which time the weekly reports show 4,902 cubic yards of sand and gravel to have been overcast near the breakwater at Lower Okanagan lake.

PARTHIA SHOAL.

On January 12, 1913, dredging was recommenced on Parthia shoal, in the entrance to First narrows from Burrard inlet. This was a dangerous location, especially during a fog, as all vessels entering or leaving Vancouver harbour had to pass very close to the dredge. The dangerous nature of this work was exemplified on January 28th, when, during a dense fog the C. P. R. steamer *Princess Charlotte* collided with the dredge, while entering the harbour from Seattle. The resulting damage to the dredge cost $3,823.77 to repair, while the tug *Point Ellice* was damaged to the extent of $212.88.

The work on Parthia shoal was completed on March 28th. Toward completion, the dredging on this job was very slow, owing to the fact that the shoal tapered off to a long narrow spit, necessitating a large amount of movement of the dredge for very little material.

PORCHER ISLAND.

Porcher island, Spiller river. At this place, a pile wharf 40 by 60 feet, with an approach 150 feet long and 14 feet wide, was built under a day-labour agreement with Mark Hyatt, of Prince Rupert. The provincial Government have built a trail from this wharf to connect with trails leading to the interior of the island. It also serves all the settlers on the east coast. There is a depth of 20 feet along the face at low tide and can be used by any of the coasting steamers calling there. Expenditure to date, $3,450.21.

PORT ESSINGTON.

At Port Essington on the Skeena river, a sand bank had formed in front of a wharf. A local clam shell dredge was employed, and the greater part of this removed, but owing to the inefficient work of the dredge, a small portion of the harder part was not taken out. This does not interfere with navigation as it is at present. At some later date it may be necessary to remove another five hundred yards at this point. Expenditure to date, $2,515.

PORT MOODY.

A contract was let to Mr. George Griffiths, of Vancouver, for the construction of an extension to the Port Moody wharf, the contract price being $8,500.

Work was started on October 1, and was completed on November 30, 1912.

The extension was built to enable steamers to reach the wharf at all stages of the tide.

The approach is 1,695 feet long by 16 feet wide, and the main wharf is 64 by 40 feet, with a shed 12 by 12 feet.

There is 11 feet of water along the face at low tide.

PRINCE RUPERT.

Prince Rupert, Quarantine wharf. A contract was let for this structure to Messrs. Naylor Bros., of Victoria, B.C., on January 19, 1912, for $57,625. There was a long delay after the letting of this contract, owing to the inability of the contractor to secure a supply of creosoted piles that would conform to the department's creosoting specification. These were afterwards secured and work begun. At this date, it is 90 per cent completed and, having progressed so far, all danger of further delay from bad weather being removed, the original contract will be finished by April 10th.

REFUGE BAY.

Refuge bay, Porcher island. A survey was made and plans and specifications drawn for a pile wharf 40 by 60 feet with an approach 395 feet long and 14 feet wide. A contract for the construction of this was let on December 20, 1912, to Messrs. Angle and Hyatt, of Prince Rupert, for $5,200. Owing to severe weather, this work is only 90 per cent completed at this date, but with the approach of spring and good weather the completion is only a matter of a few days, and April 15th should see the work done. This wharf will serve all settlers on the north coast of the island as well as others who were operating out of this point. A great deal of gravel is shipped from here to Prince Rupert for building purposes, and it is also a refuge for fishing boats in stormy weather. The provincial Government have constructed a trail to connect this wharf with the interior of the island.

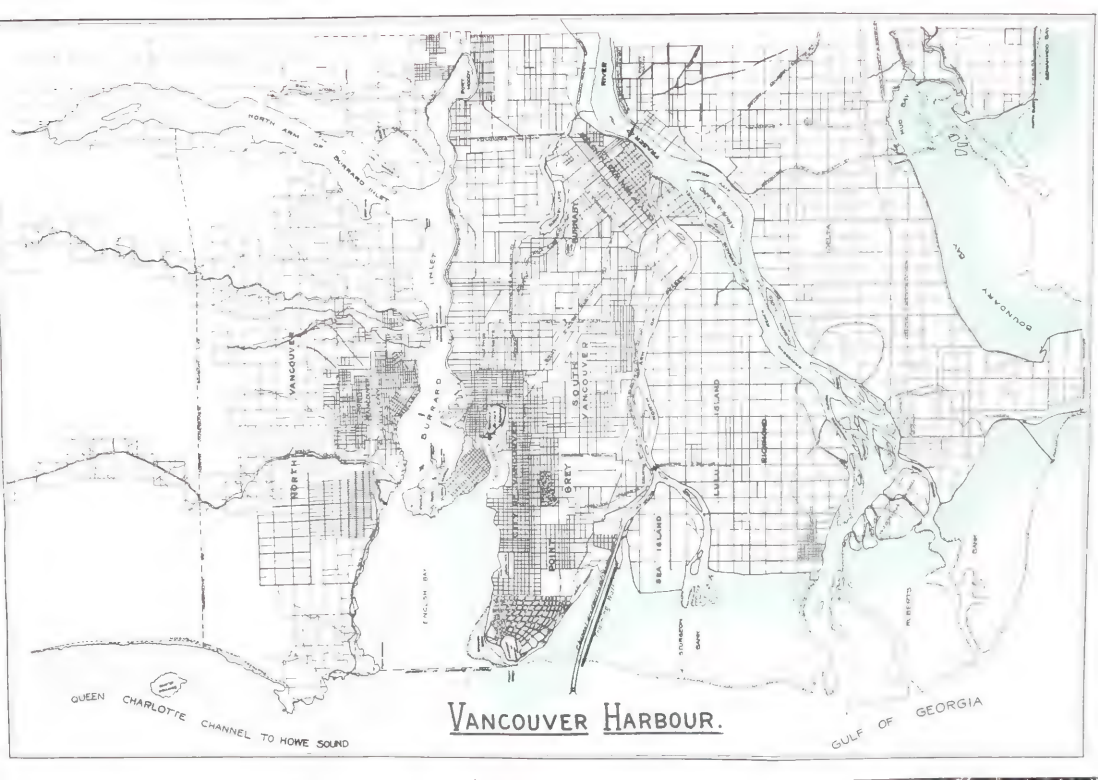
The expenditure to date is $5,136.

REVELSTOKE.

Revelstoke is a city with a population of about 3,500, situated on the Columbia river at the point where the main line of the Canadian Pacific railway crosses the river for the second time. It is the headquarters of the lumber industry of the district and is the supply point for the surrounding mining camps of the Big Bend, Camborne, Trout lake and the Lardeau country.

It is the westerly junction point of the Canadian Pacific main line and the Crowsnest route of the same company and the point of embarkation for the southerly portions of the Kootenay and Yale-Cariboo districts. During low water stage, in the Columbia river, traffic is carried from Revelstoke towards the south by rail to Arrowhead, where daily steamers ply on the Arrow lakes to Comaplix and Beaton, eleven miles, and to Robson, 127 miles. During extreme high water in the river, the railway from Revelstoke to Arrowhead is under water for a portion of the distance and steamers then proceed to Revelstoke and make their northerly landing there.

During the summer months, a steamer also makes regular trips up the Columbia river from Revelstoke to Downie, 45 miles, carrying freight and passengers to the lumber and mining camps on the river. Quarrying rock for the bank protection work was carried on jointly with the building of the wharf, November 21, 1912, and com-




# VANCOUVER HARBOUR.

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pleted on December 21. From December 23rd until the 31st, the work of cutting roads, over which to haul the rock, crib timber and piling, was done, and from January 1, 1913, until January 11, the crew was engaged in getting materials on to the ground and in building pile-driver. Actual construction work on the wharf was begun on January 13 and continued until February 8, when it was found necessary to stop work on account of extremely cold weather. Work was resumed on March 3 and completed on March 31, with the exception of the filling of the upper portion of the bank protection crib which has been deferred until frost leaves the ground.

The wharf consists of a level platform 50 feet by 54 feet, 3 feet above normal high water level, and an incline 32 feet wide by 206 feet long on a uniform grade of 1 in 12 to 2 feet above average low-water mark. The approach to the level platform is an earth and gravel roadway 16 feet wide and 110 feet long, built on top of a portion of the bank protection crib on a grade of 1 in 20.

The bank protection work consists of a timber crib built on piling, with a foundation of brush and wire mattrassing and filled with rock and gravel. The crib is built to high water level, averages 10 feet in height and is 300 feet long by 25 feet wide.

The cost of the wharf was: Wharf proper, $4,080.02, and bank protection, $8,340.33; making a total of $12,420.35.

### ST. JAMES ISLAND.

The following are the dimensions of the wharf built at St. James island by day labour: Main wharf, 40 by 60 feet; approach, 12 by 495 feet; shed, 12 by 20 feet, with 8-foot walls. A float was also built, 20 by 35 feet, with a gangway 4 by 36 feet leading to the main wharf.

The total cost of this wharf was $2,154.68.

The work was commenced on September 10, and was completed on October 3, 1912.

### SANDSPIT POINT.

Sandspit point, Moresby island, Queen Charlotte islands. A survey was made and plans and specifications drawn for a pile wharf 40 by 70 feet with an approach 435 feet long by 14 feet wide. This wharf will have 20 feet of water along its face at low tide. A contract for this work was let on January 18, 1913, to the Westholm Lumber Company, Limited, of Prince Rupert, for $4,375. Owing to bad weather conditions the contractors have not yet started construction.

### SAVARY ISLAND.

The following are the dimensions of the wharf built at Savary island: Main wharf, 40 by 60 feet; approach, 390 by 14 feet; shed, 12 by 20 feet, with 8-foot walls; a small float 10 by 16 feet, covered with 2-inch planks, and a gangway, 4 by 28 feet, leading to the wharf, for the convenience of small boats landing at this place.

Four boom logs were placed on the north side of the wharf to protect the wharf and approach from floating timber.

This work was done by Messrs. James McDonald & Company, who were given a contract to build this wharf at a fixed price of $36 per pile driven in place, and $36 per M. for lumber in place, including fastenings, and the total cost was $4,980.

The work was commenced on July 25, and completed on August 3, 1912.

### SEYMOUR ARM.

Seymour Arm is a settlement at the northern end of Seymour arm, one of the principal branches of Shuswap lake. The Seymour Arm Fruit Lands Company own about 6,000 acres of excellent farm and fruit lands, and at the present time, some

200 acres of this area have been cleared and are being disposed of to actual settlers. The settlement at the present time consists of about two hundred people, there are a number of good residences and other necessary business establishments, and the general atmosphere of the place is progressive.

Contract plan and specifications for this proposed wharf were forwarded; the contract has been awarded to Messrs. Gillis, Cécil Doré and H. W. Tansley, of Seymour Arm, for the sum of $5,850. The work will not be commenced until after the close of the fiscal year.

SHUSHARTIE BAY.

The following are the dimensions of the wharf built at Shushartie bay: Main wharf, 40 by 70 feet; approach, 14 by 105 feet; freight shed, 12 by 20 feet.

This wharf was built by Messrs. James McDonald & Company, who were given the work at a fixed price of $29 per pile driven in place, and $38 per M. for lumber in place, including fastenings, etc., and the total cost was $3,964.

This work was commenced on August 3 and completed on August 27, 1912.

SHUTTY BENCH.

Shutty Bench is a farming and fruit growing settlement, five miles north of Kaslo, on the west side of Kootenay lake. At the present time there are about fifty settlers, representing a population of about 175, and the population is growing rapidly.

A contract was let to Mr. William English, of Kaslo, for the construction of a wharf for the sum of $5,400.

Work was commenced on January 5 and completed on March 31. The structure consists of a pile and timber wharf, 264 feet long and 32 feet wide. The upper 48 feet is level, the adjoining 204 feet is on a uniform grade of 1 in 12 and the outer 12 feet is level at a height of 2½ feet above low water level.

A frame shelter, 12 feet by 16 feet, has been built at the upper end of the wharf.

The total cost of the work was $5,918.50.

SICAMOUS.

Sicamous is situated on the east shore of Shuswap lake at the junction of the Okanagan branch and the main line of the Canadian Pacific railway.

In addition to the supplies required by the settlers, a large amount of lumber and other heavy material is transhipped at Sicamous for use at Seymour Arm and other lake settlements. The C. P. Ry. operates an excellent hotel at this point, and many tourists make it a stop-over point during the summer season.

Operations were commenced on the construction of a wharf on November 9, 1912.

The pile bent structure is 154 feet long and 16 feet wide; the inner 112 feet being built on a uniform slope of 1 in 12 from the C. P. Ry. platform, at Sicamous station, to the main platform of wharf, which is 70 feet long and 42 feet wide, at right angles to the approach, and built 3 feet above average high-water level. On the east side of the main platform, provision is made for a slip way, 60 feet long and 10 feet wide, on a grade of 1 in 6 extending to low-water level, thus permitting of a convenient landing being made at all stages of water. A shelter 20 feet by 12 feet has also been built on the wharf head.

The work was completed on the 15th December at a total expenditure of $3,680.24.

SIDNEY ISLAND.

The following repairs, etc. were done to Sidney island wharf: The inner end of the approach, for 235 feet, was rebuilt, and 20 piles were driven, where necessary, under the balance of the approach. An extension of 20 by 60 feet, was built on the face of the

wharf; a new freight shed, 20 by 12 feet, was also erected on the wharf, and a slip 30 by 4 feet, was built at the back of the wharf for the convenience of small boats landing there.

This work was started on August 24, and was completed on September 9, 1912. The total cost was $1,842.67.

SKIDEGATE INLET.

Skidegate inlet, Queen Charlotte islands. An appropriation of $1,000 was made to remove five rocks in this inlet. An attempt to remove these was made but so serious was the weather and tide that delay was necessary. During the delay caused, a report was asked on the subject of dredging the whole inlet. The examination developed the fact that dredging was the only satisfactory way of dealing with this matter. It was therefore decided to stop any further work until the dredging has been decided on. These rocks will be removed at much less expense when dredging the whole channel. Expenditure, $250.

SOUTH THOMPSON RIVER.

This waterway, of length about 40 miles, is the connecting link between Kamloops and the Shuswap lakes.

Considerable improvement has been made by the Government dredge *Pelican* to facilitate steamboat traffic, to encourage which the provincial Government grants an annual subsidy of about $4,000.

The range between high and low water is given as 11 feet, the extreme high stage occurring about the middle of June and the extreme low stage occurring about the end of March.

In addition to the numerous launches, three fair-sized passenger and freight steamers are in constant service during the season of navigation on the two branches of the Thompson river, and regular tri-weekly trips are made between Kamloops-Chase-Shuswap lakes.

Work of deepening a channel through a shallow gravel bed known as 'Shaws Bar,' on the South Thompson river, about a mile from the outlet of Little Shuswap lake, was continuous from 1st April to 9th May and again July 31 to October 4, during which periods a channel 900 feet long was dredged of average width 80 feet, dredged to a depth of 4 feet below low water level; 36,173 cubic yards of sand, gravel and clay being overcast.

STEWART.

Stewart, Portland canal. An addition to the public wharf was made during the season. A contract was let to W. G. Gillette, of Vancouver. A shed was also built on the structure and fender piles which had been broken were renewed by the contractor. In addition to above, a float connected to the main wharf by steps was built. Expenditure to date, $7,502.44.

STUART RIVER.

Of the allotment of $5,000 for improvements on this river no expenditure has been made. The controlling features of this waterway will probably necessitate both dredging and rock excavation in order to permit of navigation and it was not deemed expedient to make any provision for plant until more detailed information is available.

SUNSHINE BAY.

Sunshine bay is the shipping point for an extensive and rapidly-growing farming and fruit-growing settlement on the west arm of Kootenay lake, sixteen miles from Nelson, and four miles from Proctor.

The wharf, which was built by day labour, consists of a pile and timber structure, 250 feet in length and 32 feet wide. The upper 48 feet are level and the remainder is on a uniform grade of 1 in 12, the lower end being at an elevation of 4 feet above low water level.

Work was commenced on July 22 and completed on October 31, at a total cost of $5,248.23.

THOMPSON RIVER.

*Removal of Snags.*

An appropriation of $2,500 was authorized for this service.

As a suitable tug boat was not available for this work, it was not advisable to proceed with the work of removing snags and other obstructions on the South Thompson river. Navigation is not being interfered with to any extent at the present time and this work will be carried on to advantage at an early date.

Part of this allotment was expended in building a frame warehouse, 40 feet by 20 feet, at the Government office at Chase, the lack of storage accommodation being up to this time badly felt.

The total expenditure chargeable to this appropriation was $821.09.

TUCKER BAY.

The following are the dimensions of the wharf built at Tucker bay: Main wharf, 40 by 70 feet; approach, 12 by 120 feet; freight shed, 12 by 20 feet.

This work was done by Messrs. James McDonald & Company, who built it for a fixed price of $29 per pile driven in place, and $36 per M. for lumber in place, including fastenings, etc.

The total cost was $3,969.85, and the work was commenced on September 1 and completed on September 19.

TWO-BEACON (COLUMBIA RIVER).

On October 22, the departmental dredge *Nakusp* began operations at Two-Beacon bar, about one mile above Burton city. The dredge worked continuously on this portion of the channel until March 31, when work was still in progress. The new channel excavated is 2,623 feet long, 75 feet wide and has a minimum depth of 8 feet at low water stage. The material moved was principally clay, with a light deposit of fine silt on top, and amounted to 55,000 cubic yards.

The completion of this new channel will give an excellent river crossing for steamers from the channel above, which is on the west side of the river to the channel below, which lies along the easterly bank. The total cost of the above work was $6,542.17.

UNION BAY.

The following repairs were made to Union Bay wharf: Twenty hardwood bearing piles, 15 brace piles, and 9 fender piles, were driven in the main wharf, and 2,300 feet of new lumber was used in new decking.

Work was started on December 6 and was completed on December 24, 1912.

The cost of these repairs amounted to $689.92.

UPPER COLUMBIA RIVER.

The portion of the Columbia river lying between Windermere lake and the town of Golden, on the main line of the Canadian Pacific railway, a distance of 100 miles, is navigable for light draught steamers from April until November. The snag boat

*Muskrat* is engaged on this part of the river in doing work necessary to remove obstructions to and provide help for navigation.

The work is of a varied nature and consists principally of keeping the banks clear of sweepers, removing snags from the channel, repairing old, and building new, wing-dams, and removing bars with a Stanley scraper, with which she is equipped.

She started on this work for the season on May 1, 1912, and worked until October 30, when she was hauled out for the winter, and the crew paid off on November 9. Her season's work was as described above, and in addition, the crew built a new wharf at Wilmer, described elsewhere in this report. The total expense for the season, exclusive of the cost of Wilmer wharf, was $4,155.25, which included the sum of $316.70 for repairs.

### UPPER FRASER RIVER.

The improvements on the Upper Fraser river consisted of the blasting and removing of rock and boulders at six of the most dangerous locations on the river between Fort George and Quesnel, covering a total length of waterways of about 92 miles. Several lines of steamboats are in regular service on this river during the season of navigation, and the entire supplies for the townspeople of Fort George and the ranchers for the surrounding district of a radius of 60 miles are brought in by this means. Owing to the geographical position of Fort George, great activity will be experienced there during the next few years especially due to the advent of the G. T. P. and the value of water transportation on the Upper Fraser will increase greatly in importance.

#### *One-half Mile below Fort George Canyon.*

At this location, one large boulder was stripped to a depth of 5 feet below low water level by the removal of 180 cubic yards of rock.

#### *China Rapids, thirty miles below Fort George.*

These rapids have always been regarded as troublesome to steamer captains, owing to the many and scattered rocks lying in this fast-flowing water. A special gang of five men worked here from November 18, 1912, until January 4, 1913. The tops of eight large boulders were blown off to a depth of four feet below low water level by the removal of about 700 cubic yards of rock. A very marked improvement has been made in this heretofore bad place in the river.

#### *White's Landing, forty-two miles below Fort George.*

At this location, one large boulder lying in the centre of the channel in very swift water had always been a source of danger. About 22 cubic yards of rock was blown off this boulder, leaving a depth of 4 feet below low water level.

#### *Forty-one miles below Fort George.*

Five men were employed at this point, and 51 cubic yards of rock was blown off the top of two boulders, leaving a depth of 4 feet at low water level.

The works, as described above, were carried on almost continuously from October 28, 1912, until March 12, 1913, two and three gangs being run, as circumstances and conditions required.

### VANCOUVER HARBOUR.

This work consisted in making a complete survey of Burrard inlet from Brockton point, near the First narrows, to Bury point, about one and a half miles above the Second narrows; also, a survey of False creek, from Vancouver city limits, in English bay, to Main street bridge.

Work was started on July 25 and completed on October 30.

The total cost of the survey was $12,013.24.

Test borings were made on the Vancouver side of the inlet from the sugar refinery to above Heap's mill to determine the best location for a wharf. Other test borings were taken on the north Vancouver side from Lonsdale avenue to the Indian Reserve to determine the best site for a wharf on that side of the inlet, and a further series of borings were taken in False creek to determine the class of material that will have to be removed in dredging a channel 350 feet wide and 20 feet deep, at low water, from English bay to Main street bridge.

The total cost of these borings was $12,605.06.

Work was started about September 1 on the construction of two dams on the Capilano river to divert all the water into the western channel, so as to make the river discharge to the west of the First narrows and stop any material from being deposited in the cut that will be dredged.

One small dam was completed and the cribwork was partially built for the larger dam, but operations had to be suspended, as there was difficulty about acquiring land necessary for a borrow pit to build the dam with. After operations were suspended, a heavy freshet occurred in the river and some of the cribwork was carried away by trees and drift hitting it. Most of the crib timber was recovered, and on November 30, the work was entirely suspended, as the water was too high to complete the dam.

The total expenditure of these two dams was $4,321.36.

The total expenditure on Vancouver harbour was $29,578.95.

*Dredging.*

The dredge *Mastodon* worked from April 1 to May 25 widening the First narrows, when work had to be stopped as the dredging was completed up to the Vancouver city water pipes, and 207,000 cubic yards of sand and gravel were removed. This dredging was done to 30 feet at low tide.

From May 25 to July 2, the dredge was under repairs, and on July 3, work was commenced on dredging a channel in Coal harbour. This channel was dredged to 15 feet at low tide, and took longer than was expected on account of striking very hard material, with boulders in it, but was completed on December 23, 1912; 483,000 cubic yards of material was removed.

From December 24 to January 15, the dredge was under repairs, and on January 16, dredging was commenced on Parthia shoal, and on the morning of January 28, during a dense fog, the Canadian Pacific Railway steamer *Princess Charlotte* collided with the dredge, and did damage that cost about $3,800, and took 16 days to repair. Then operations were resumed, and the whole of the shoal was dredged over by the 27th of March; 134,700 cubic yards being removed.

It was found, subsequently, that, when the shoal was swept over to ascertain if the full depth was maintained, there are several high points which are not down to the full depth. These are, apparently, boulders, and the dredge was placed on the shoal again to see if they could be removed, but the dredge could not bring up any material, although we were working to 31·5 feet at low tide, but there were heavy scratches on the buckets that showed they were striking boulders in certain places. These high points are located and it will be necessary to have a diver go down, and either sling the boulders or break them up with powder, but there are only two days every two weeks when the tide is sufficiently slack, long enough, for a diver to work there, as it runs from four to seven miles an hour over this shoal.

From April 1 to May 21, the dredge *King Edward* worked at the mouth of False creek, cutting a channel through the bar 160 feet wide and 10 feet deep at low water,

and 40,900 cubic yards of sand, gravel, and shell were removed. This channel was not completed, as the dredge was not suitable for this class of work.

From May 21 to June 5, the dredge was under repairs.

VICTORIA HARBOUR.

This work consisted in a survey of the outer harbour around Ogden point, being the site of the breakwater, which is under construction, also, of the inner harbour up to the Point Ellice bridge.

Work was commenced in August, 1912, and completed in February, 1913.

The total cost was $6,759.37.

Test borings were taken in the inner harbour, and on the site of the proposed wharfs inside the breakwater. In all, about 1,400 borings were taken to determine the position of rocks that would be in the way of improvements to the channel. Borings were taken around Shoal point, Pelly island, and in West bay; also, between Songhies point and the Railway bridge to determine the amount of rock necessary to be removed to increase the accommodation for steamers in the inner harbour, and to locate the foundations for a proposed sea wall from Songhies point to the Railway bridge.

A contract was entered into with Sir John Jackson, Limited, for the construction of a breakwater at Ogden point, 2,500 feet long, consisting in a rubble mound and concrete top, but up to the 31st of March, no actual construction work had been started; considerable preliminary work in the shape of building offices, etc., and arranging for plant, etc., was commenced. No expenditure was made in connection with the contract up to March 31, 1913. This contract was let on a unit price basis, and amounts to about $1,800,000.

*Beaver Rock.*

Work was started on April 1, 1912, on the removal, by drilling and blasting, of Beaver rock, which is situated in Victoria harbour, between Songhies point and the Grand Trunk Pacific wharfs, and has been for years in the way of navigation for the Canadian Pacific Railway Company's steamers and other boats using the inner harbour. It is about 150 feet long by 125 feet wide, and there was 13 feet at low tide on this rock in the shoalest place. Twenty-five platforms were set, drilled and blasted. The total number of 2¼-inch holes drilled was 1,014; the total length drilled was 6,286·75 feet, and the average depth of each hole was 6·2 feet. The total area blasted over was 13,730 square feet, and the total amount of solid rock blasted to 21 feet, or one foot sub-grade, was 2,376 cubic yards, at a cost of $14,972.73, including repairs.

*Rock Breaker.*

The Lobnitz Rock Breaker No. 1 was operated in Victoria harbour throughout the year, with the exception of the time spent undergoing alterations, and a small job at Evans, Coleman and Evans dock at Vancouver.

The work in Victoria harbour was carried on from the previous year, on the locations required by the District Engineer. On September 7th, the machine was laid up for alteration. This work was let by public tender, and the Wallace Shipyards, Limited, were the successful tenderers.

The alterations comprised, in the main, the changing of the machine to work through a well, provided for the purpose at one end of the hull, instead of through

the centre well, the fitting of three spuds and the installation of a condenser. The alterations were satisfactorily completed early in November and the machine was put to work on some rock at Evans, Coleman and Evans wharfs in Vancouver.

On November 25th, the machine was put to work in Victoria harbour.

On December 22nd, a double shift was commenced on the machine.

The cost of operation of Lobnitz Rock Breaker No. 1 for the year was $21,326.98, and the cubic yards removed, 5,146. The cost per cubic yard of rock broken ready for dredging was $4.41.

The following is a list of the rocks worked upon, by the Lobnitz Rock Breaker No. 1 in Victoria harbour:—

| Name of Rock. | Date. | |
|---|---|---|
| | From | To |
| Dredger rock | April 1 | May 14. |
| Platform rock | May 21 | June 7. |
| Shoal Point rock No. 1 | June 11 | " 19. |
| Shoal Point rock No. 2 | " 21 | " 25. |
| Platform rock | " 29 | July 5. |
| Raymur Point rock | July 17 | " 29. |
| Platform rock | August 8 | September 4. |
| Repairs and alterations | September 5 | November 5. |
| Evans, Coleman and Evans wharf, Vancouver | November 6 | " 16. |
| Berens Island rock | " 26 | December 17. |
| Raymur Point rock | December 23 | February 25. |
| Platform rock | March 3 | March 31. |

The operations of this machine are as follow:—The chisel is dropped in one spot until it is down to one foot below grade, or until it has made 3 feet penetration into the solid rock. The machine is then moved 3 feet and another hole is punched down a similar depth. This operation is carried on every 3 feet across the rock; the stem of the breaker being held by a spud, and the holes are made on a radius, the stern spud being the centre on which to work. When a row of holes is made across the rock the stern spud is raised, and the dredge is moved 3 feet ahead, and the same operation is repeated. This makes the holes about 3 feet apart each way.

It will be noticed that the breaker does not work continuously, but after 3 feet of rock has been broken down, the broken rock has to be moved by a dredge, then the rock breaker is put on the rock again until the desired depth has been obtained. The average penetration of the holes made should break up at least two-thirds of a cubic yard to each hole, which, taking 7,747 holes, would give 5,164 cubic yards of rock broken up for the year. The exact amount will be determined when the rock is broken down to the full depth, and a final survey is made.

## *Dredging.*

The dredge *Mud Lark* operated in the upper harbour from April 1 to May 22, and removed 17,800 cubic yards of mud and clay in deepening in front of the Canadian-Puget Sound mills, and in widening the channel between the railway bridge and Hope point.

This dredging was done to 20 feet at low tide.

From June 19 to July 13 work was continued in the upper harbour in front of Canadian-Puget Sound mills, and 9,700 cubic yards were removed.

On July 15 and 16, the dredge worked on Shoal point and Platform rocks, removing loose rock that had been broken up by the Lobnitz rock breaker, and 190 cubic yards of rock were removed.

From July 19 to 23, dredging was done in front of the Canadian-Puget Sound mills, and 2,300 cubic yards were removed.

From July 24 to 30, 3,850 cubic yards of sand and gravel were removed from the Producers' Rock and Gravel works in Royal bay, for which the company paid $1,480, being 14·8 days' work, including overtime, for the dredge, at $100 per day.

From August 7 to 13, 2,350 cubic yards were removed from in front of the Canadian-Puget Sound mills.

On August 14, work was started in dredging the channel from the Grand Trunk Pacific wharfs up to the railway bridge. This work was carried on, with the exception of the time taken up for repairs, up to March 31, and 66,650 cubic yards of material were removed.

The dredge *Ajax* worked from April 1 to June 20 in Victoria harbour widening the channel from Raymur point to Shoal point, and 31,575 cubic yards of clay and mud were removed from the south side of the channel, including 60 yards of rock from Shoal Point rock, which was broken down by the Lobnitz rock breaker.

Some 5,175 cubic yards of mud and clay were removed from the channel near Beaver rock, and 960 cubic yards from a shoal near inside Laurel point, which was made by steamers backing out from the Canadian Pacific Railway wharf.

A total of 1,310 cubic yards of loose rock were removed from Dredger rock, and 120 cubic yards of loose rock and 160 cubic yards of clay were removed from Platform rock.

There were 1,400 cubic yards of clay removed from the west side of the channel opposite the lighthouse and around Berens Island rock.

From October 2 to November 18, the dredge *Ajax* worked widening the channel around Shoal point and deepening the channel leading out of the harbour beyond the lighthouse, with the exception of 10 days, from October 5 to 15, when the channel near Platform rock was widened, and the clay cleaned off part of Platform rock to enable the Lobnitz rock breaker to work on this rock, and 23,030 cubic yards of material was removed.

From November 19 to January 3 the channel was widened between Songhies point and Platform rock, and 41,360 cubic yards of clay and mud were removed.

From January 6 to February 7 the dredge worked at various places, principally clearing rocks and widening the channel at Shoal point, and making a cut on the north side of the channel opposite Pelly island, and 37,930 cubic yards of mud and clay were removed.

From February 10 to March 31, the dredge was working in the channel at the mouth of the harbour, with the exception of a few days when the weather was too rough to operate there, and 43,330 cubic yards of clay, sand, and gravel, were removed.

### WILLIAM HEAD.

The following work was done at the quarantine station at William Head during the year 1912-13:—

New fender piles were driven in the main wharf and the small wharf, and the copper on the bearing piles on both wharfs was renewed where necessary. The sheds on the wharfs were repaired and repainted, and new planking was laid on a portion of the small wharf, while both approaches were over-hauled and repaired where necessary.

The pipe line, leading from the lake to the station, was overhauled and some old pipe, 250 feet in all, was taken up and replaced with wooden wire-wound pipe, as several leaks had developed in the old pipe.

The road in the station grounds was regraded, and the culverts were repaired and renewed where necessary.

The private road leading from the main road to the station grounds was repaired and a new bridge over a ravine was built, and the width increased from fourteen to sixteen feet.

The concrete for bay at the reservoir was thoroughly cleaned and new screens put in, and the fire protection service at the station was overhauled and new hose bought to replace the old hose, which was worn out.

Work was started on June 17, and was closed down on November 30, 1912.

The total expenditure was $7,292.53.

### WILMER.

Wilmer is a village situated on the Columbia river, about three miles north of where the river leaves Windermere lake, and eighty-two miles south of Golden. Population, 250. It is the centre of a farming and fruit-growing district, and extensive irrigation works are now under construction in the immediate vicinity, which will allow of the cultivation of about 30,000 acres of land. The Columbia river, at this place, is navigable for about seven months during the year and the only steamer landing at Wilmer was to the river bank.

During the last fiscal year, authority was granted for the construction of a wharf, 24 feet by 60 feet, with a slip 8 feet by 24 feet at north end.

Operations were commenced on September 5, and continued until September 17, 1912, when it was found necessary to leave the work temporarily to attend to other pressing work in connection with river improvements. During the time that work was in progress, the main wharf was completed and only the building of the ramp remains to be done.

The wharf cost $933 to date.

### WOODWARD'S SLOUGH.

Work was started on this wing dam No. 2 on April 26, and closed down on December 28, 1912.

The following work was done: Six mattresses were sunk, and 340 piles were driven. The space between the piles was filled with brush and loaded with rock.

There is a little more brush and rock to be put in between the piles to bring it up to the required level, that is, about 4 feet above low water at the outer end and sloping back to the inner end to the half tide level.

The cost of this work was $17,249.26.

### WOODEN RIVER.

Wooden river is a small stream running into Massett inlet on Graham island, which is the most northerly of the Queen Charlotte islands. This stream was cleaned up for a distance of approximately three miles, and the many settlers, whose claims adjoin this river, are now able to take their supplies in by water, thus avoiding a very bad trail which necessitated the carrying of all supplies by hand.

Expenditure to date, $999.65.

## DREDGING OPERATIONS.

The detail descriptions of work done by the different dredges will be found under the name of the place, in the body of the report.

Where dredging is described and classified as 'A,' 'B' or 'C,' the explanation is, that solid rock or boulders of two cubic yards capacity or more are covered by Class 'A'; loose rock or small boulders by Class 'B,' while all other material, such as sand, clay, etc., are included in Class 'C.'

The following tables cover the work done by each particular dredge:—

# NOVA SCOTIA.

## Departmental Dredge 'No. 5,' and Plant in Attendance.

| —— | April. | May. | June. | July. | August. | September. | October. | November. | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c.yds | ..... | ..... | 51,952 | 118,008 | 66,227 | 49,608 | 79,531 | 28,409 | ..... | ..... | ..... | ..... | 393,735 |
| Kind of material | Sand & mud | ..... | ..... | Sand & mud | Sand & mud | Sand & mud | Sand & mud | Sand & mud | ..... | ..... | ..... | ..... | ..... |
| | | | H. M. | H. M. | H. M. | H. M. | H. M. | H. M. | | | | | H. M. |
| Total possible dredging time | ..... | ..... | 355 30 | 450 00 | 420 00 | 382 00 | 490 00 | 235 00 | | | | | 2,332 30 |
| Hours actually dredging | ..... | ..... | 198 30 | 340 00 | 286 00 | 262 00 | 390 00 | 177 00 | ..... | ..... | ..... | ..... | 1,653 30 |
| Per hour actually dredging.....c yds | ..... | ..... | 261 72 | 347 08 | 231 56 | 189 34 | 203 92 | 160 50 | ..... | ..... | ..... | ..... | 238 12 |

## DETAILS OF EXPENDITURE.

| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | 17 50 | 1,230 33 | 1,416 00 | 1,353 91 | 1,541 89 | 1,486 18 | 1,444 70 | 1,440 76 | 959 75 | ..... | ..... | ..... | 10,891 02 |
| Provisions | 81 25 | 457 62 | 439 50 | 482 22 | 575 88 | 506 42 | 520 00 | 476 50 | 233 60 | 8 00 | ..... | ..... | 3,780 99 |
| Fuel | ..... | ..... | 1,285 98 | 1,350 50 | 994 39 | 1,232 50 | 1,534 31 | 650 29 | 1,012 59 | 111 96 | ..... | ..... | 8,172 52 |
| Stores and equipment | 105 60 | 722 42 | 21 81 | 228 75 | 153 30 | 2,298 60 | 3,019 46 | ..... | 101 15 | ..... | ..... | ..... | 6,651 09 |
| Contingencies | ..... | 26 10 | 7 65 | 19 90 | 8 25 | 30 95 | 38 10 | ..... | 24 40 | 80 85 | ..... | ..... | 236 20 |
| Water | ..... | 78 40 | 117 60 | 184 80 | 168 00 | 224 00 | 212 80 | 246 40 | 44 80 | ..... | ..... | ..... | 1,276 80 |
| Pilotage and towage | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 5 00 | ..... | ..... | 5 00 |
| Wharfage | ..... | 15 00 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 15 00 |
| Rental hired tugs | ..... | ..... | ..... | 150 00 | 50 00 | ..... | 25 00 | 25 00 | 50 00 | ..... | ..... | ..... | 300 00 |
| Repairs (inc. all items charged to D.V rep'rs) | 4,914 61 | 1,615 60 | 866 72 | 527 61 | ..... | 972 85 | 531 03 | 862 09 | 1,232 93 | 841 00 | 1,159 14 | 754 79 | 14,278 37 |
| Repairs—Extraordin'y. | 2,994 89 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 2,994 89 |
| Totals | 8,113 85 | 4,145 47 | 4,155 26 | 4,297 69 | 3,491 71 | 6,751 50 | 7,325 40 | 3,701 04 | 3,659 22 | 1,046 81 | 1,159 14 | 754 79 | 48,601 88 |

## EXPENDITURE INCURRED WORKING AT

| —— | East River, N. S. —— | —— | —— | —— | —— | —— | —— | —— |
|---|---|---|---|---|---|---|---|---|
| | $ cts. | | | | | | | $ cts. |
| Wages—Dredge | 10,891 02 | ..... | ..... | ..... | ..... | ..... | ..... | 10,891 02 |
| " Departmental tugs | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Provisions—Dredge | 3,780 99 | ..... | ..... | ..... | ..... | ..... | ..... | 3,780 99 |
| " Departmental tugs | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Fuel—Dredge | 8,172 52 | ..... | ..... | ..... | ..... | ..... | ..... | 8,172 52 |
| " Departmental tugs | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Stores and equipment—Dredge | 6,651 09 | ..... | ..... | ..... | ..... | ..... | ..... | 6,651 09 |
| " " Departmental tugs | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Contingencies—Dredge | 236 20 | ..... | ..... | ..... | ..... | ..... | ..... | 236 20 |
| " Departmental tiugs | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Water—Dredge | 1,276 80 | ..... | ..... | ..... | ..... | ..... | ..... | 1,276 80 |
| " Departmental tugs | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Pilotage and towage—Dredge | 5 00 | ..... | ..... | ..... | ..... | ..... | ..... | 5 00 |
| " " Departmental tugs | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Wharfage—Dredge | 15 00 | | | | | | | | 15 00 |
| " Departmental tugs | | | | | | | | | |
| Repairs—Dredge | 14,278 37 | | | | | | | | 14,278 37 |
| " Departmental tugs | | | | | | | | | |
| Repairs, extraordinary—Dredge | 2,994 89 | | | | | | | | 2,994 89 |
| " " Departmental tugs | | | | | | | | | |
| Rental of hired tugs | 300 00 | | | | | | | | 300 00 |
| Total expenditure—Dredge | 48,601 88 | | | | | | | | 48,601 88 |
| Total expenditure—Departmental tugs | | | | | | | | | |
| Total expenditure—Hired tugs | | | | | | | | | |
| Total complete expenditure | 48,601 88 | | | | | | | | 48,601 88 |
| Cubic yards removed | 393,735 | | | | | | | | 393,735 |
| Cost per cu. yd. (calculated from total expenditure) | $0·1234 | | | | | | | | $·1234 |
| Cost per hour actually dredging | $29·393 | | | | | | | | $29.393 |
| Kind of material | Sand & mud. | | | | | | | | |
| Work commenced | June 1st. | | | | | | | | |
| Work completed | Nov. 18tn. | | | | | | | | |

## DISTRIBUTION OF TIME IN HOURS.

| | | % of total. | | % of total. | | % of total. | | % of total. | | % of total. | | % of total. | | % of total. | | % of total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | H M | | H M | | H M | | H M | | H M | | H M | | H M | | H M | |
| Lost by storms and weather | | | | | | | | | | | | | | | | |
| " repairs | 297 00 | 12·74 | | | | | | | | | | | | | 297 00 | 12·74 |
| " coaling | 10 00 | 0·43 | | | | | | | | | | | | | 10 43 | 0·43 |
| " watering | | | | | | | | | | | | | | | | |
| " tides and current | | | | | | | | | | | | | | | | |
| " cleaning plant | 85 00 | 3·65 | | | | | | | | | | | | | 85 00 | 3·65 |
| " cleaning boilers | | | | | | | | | | | | | | | | |
| " inspecting boilers | | | | | | | | | | | | | | | | |
| " holidays | 50 00 | 2·15 | | | | | | | | | | | | | 50 00 | 2·15 |
| " waiting on scows or tug | | | | | | | | | | | | | | | | |
| " waiting orders | | | | | | | | | | | | | | | | |
| " towing and preparing for work | | | | | | | | | | | | | | | | |
| " moving dredge and changing cut | 68 00 | 2·92 | | | | | | | | | | | | | 68 00 | 2·92 |
| " short of coal or supplies | | | | | | | | | | | | | | | | |
| " fog | 9 00 | 0·38 | | | | | | | | | | | | | 9 00 | 0·38 |
| " pontoons and connecting | 106 00 | 4·54 | | | | | | | | | | | | | 106 00 | 4·54 |
| " miscellaneous | 54 00 | 2·31 | | | | | | | | | | | | | 54 00 | 2·31 |
| Total lost time | 679 00 | 29·12 | | | | | | | | | | | | | 679 00 | 29·12 |
| Time actually dredging | 1653 30 | 70·88 | | | | | | | | | | | | | 1653 30 | 70·88 |
| Possible dredging time | 2332 30 | 100% | | | | | | | | | | | | | 2332 30 | 100% |

*Names of Departmental Tugs included in expenditure, dates between which employed, and localities*—None.

*Names of Rented Tugs included in expenditure, dates between which employed, and localities:*—SS. *Hiawatha* and *Arcadia*, April 30, towing, Marine slip to Market wharf; May 21, towing from Market wharf to loading ground; May 27, from loading ground to Stone House Point; Aug. 10, shifting dredge at East River, Sept. 24, towing from Cantley's Point to Trenton; Nov. 28, towing Trenton to Pictou.

*Date Dredge put in commission:*—1st June. *Dredge laid up for winter at* Pictou, N.S., Nov. 18.

## NOVA SCOTIA — *Continued.*

### Departmental Dredge 'No. 6,' and Plant in Attendance.

| | April. | May. | June. | July. | August. | September. | October. | November | December | January. | February. | March | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c.yds | | 4,525 | 9,600 | 9,900 | 9,000 | 8,400 | 20,300 | 15,000 | | | | | 76,725 |
| Kind of material | | Rock, clay, gravel. | Logs, ballast, clay, stones. | Hard-pan, mud. | Mud, gravel stones. | Mud, sand, gravel. | Mud, sand, gravel. | Sand, gravel | | | | | |
| Total possible dredging time | | H. M. 160 00 | H. M. 250 00 | H. M. 270 00 | H. M. 270 00 | H. M. 250 00 | H. M. 270 00 | H. M. 240 00 | | | | | 1,710 00 |
| Hours actually dredging | | 47 30 | 115 00 | 125 00 | 61 30 | 38 00 | 105 00 | 82 00 | | | | | 574 00 |
| Per hour, actually dredging, ... c. yds | | 95·27 | 83·48 | 79·11 | 146·34 | 221·05 | 193·33 | 182·92 | | | | | 133·67 |

### Details of Expenditure.

| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | | 715 00 | 715 00 | 871 33 | 715 67 | 716 73 | 720 00 | 660 75 | 482 20 | 6 00 | | | 5,602 66 |
| Provisions | 203 40 | 232 50 | 225 00 | 257 55 | 265 00 | 329 25 | 310 00 | 259 00 | 108 00 | 73 00 | | | 2,262 70 |
| Fuel | | 94 88 | 138 31 | 237 60 | | | | | 280 15 | 199 50 | | | 950 44 |
| Stores and equipment | 340 57 | 165 97 | | 4 16 | 21 73 | 211 77 | | 22 00 | 28 39 | | | | 824 79 |
| Contingencies | 5 00 | | | | | 29 92 | 25 00 | | 1 99 | 23 27 | | | 85 18 |
| Water | | 76 00 | 45 00 | 10 00 | | | | | 20 00 | | | | 151 00 |
| Pilotage and towage | | | | | | | | | | 17 50 | | | 17 50 |
| Wharfage | | | | | | | | | | | | | |
| Rental of hired tugs | | 1,062 50 | 971 25 | 3,676 50 | 1,665 00 | 1,185 00 | 1,040 00 | 1,040 00 | 495 00 | 280 00 | | | 11,415 25 |
| Repairs (inc. all items charged to D.V rep'rs) | 1,387 35 | 562 42 | 484 88 | 638 23 | 180 95 | | 343 75 | | 399 25 | 365 87 | 381 74 | 382 50 | 5,126 94 |
| Repairs—Extraordin'y | | | | | | | | | | | 69 18 | | 69 18 |
| Totals | 1,936 32 | 2,909 27 | 2,579 44 | 5,695 37 | 2,848 35 | 2,502 67 | 2,438 75 | 1,981 75 | 1,815 18 | 965 14 | 450 92 | 382 50 | 26,505 64 |

### Expenditure Incurred Working At:

| | N. S. Steel & Coal Co. Wharf. | McKay's Point. | McDonald's Wharf. | Ore Pier and Ballast Wharf. | Port Hawkesbury. | Little Bras d'Or. | Alder Point. | North Sydney. | Totals. |
|---|---|---|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| Wages—Dredge | 117 36 | 390 20 | 68 46 | 255 68 | 1,906 10 | 331 52 | 2,268 24 | 265 10 | 5,602 66 |
| " Departmental tugs | | | | | | 180 18 | 1,227 60 | 141 10 | 1,548 88 |
| Provisions—Dredge | 52 92 | 145 53 | 26 46 | 132 40 | 516 36 | 237 32 | 887 41 | 261 30 | 2,262 70 |
| " Departmental tugs | | | | | | 19 04 | 129 85 | 15 42 | 164 31 |
| Fuel—Dredge | 22 24 | 61 16 | 11 12 | 55 60 | 217 10 | 99 90 | 371 85 | 111 17 | 950 44 |
| " Departmental tugs | | | | | | 57 72 | 389 76 | 42 36 | 489 82 |
| Stores and equipment—Dredge | 20 28 | 54 02 | 10 64 | 49 20 | 179 37 | 88 12 | 325 48 | 97 68 | 824 79 |
| " Departmental tugs | | | | | | 96 94 | 675 12 | 180 38 | 852 44 |
| Contingencies—Dredge | 2 40 | 5 50 | 1 30 | 5 03 | 19 50 | 8 82 | 32 83 | 9 80 | 85 18 |
| " Departmental tugs | | | | | | 6 01 | 36 40 | 4 94 | 47 35 |
| Water—Dredge | 3 60 | 9 90 | 1 70 | 8 80 | 34 30 | 15 80 | 59 30 | 17 60 | 151 00 |
| " Departmental tugs | | | | | | 6 32 | 42 49 | 5 84 | 54 65 |
| Pilotage and towage—Dredge | | | | | | | | | |
| " Departmental tugs | | | | | | 18 70 | 115 36 | 14 54 | 148 60 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Wharfage—Dredge | | | | | 17 50 | | | | 17 50 |
| " Departmental tugs | | | | | | | | | |
| Repairs—Dredge | 109 65 | 381 20 | 62 62 | 173 09 | 2,122 37 | 205 72 | 1,930 69 | 141 51 | 5,126 94 |
| " Departmental tugs | | | | | | 135 31 | 932 02 | 119 76 | 1,187 09 |
| Repairs, extraordinary—Dredge | 1 60 | 4 40 | 1 80 | 4 00 | 15 60 | 7 00 | 26 80 | 7 98 | 69 18 |
| " Departmental tugs | | | | | | | | | |
| Rental of hired tugs | 247 21 | 795 20 | 139 16 | 516 88 | 3,977 50 | 575 92 | 4,812 16 | 351 22 | 11,415 25 |
| Total expenditure—Dredge | 577 26 | 1,847 20 | 323 26 | 1,200 68 | 9,006 00 | 1,570 12 | 10,714 76 | 1,266 36 | 26,505 64 |
| Total expenditure—Departmental tugs | | | | | | 520 20 | 3,548 60 | 424 34 | 4,493 14 |
| Total expenditure—Hired tugs | | | | | | | | | |
| Total—Complete expenditure | 577 26 | 1,847 20 | 323 26 | 1,200 68 | 9,006 00 | 2,090 32 | 14,263 36 | 1,690 70 | 30,998 78 |
| Cubic yards removed | 325 | 5,100 | 1,200 | 2,800 | 13,800 | 5,800 | 44,600 | 3,100 | 76,725 |
| Cost per cu. yd. (calculated from total expend're) | $1·776 | $·362 | $·269 | $·429 | $·652 | $·360 | $·319 | $·545 | $·4040 |
| Cost per hour actually dredging | $46·180 | $46·180 | $46·180 | $46·180 | $46·185 | $61·480 | $61·480 | $61·480 | $54·004 |
| Kind of material | Rocks | Clay, gravel | Logs, ballast | Logs, ballast | Hard pan | Mud, gravel, sand | Mud, gravel, sand | Mud, stone | |
| Work commenced | May 14th | May 27th | June 4th | June 5th | June 17th | July 30—Aug. 3 | Aug. 5 10. Sep. 17 Oct. 25 | Aug. 28th | |
| Work completed | May 18th | June 1st | June 4th | June 10th | July 16th | Sept. 9 14 | Oct. 29 Nv. 28 | Aug. 31st | |

## DISTRIBUTION OF TIME IN HOURS.

| | H M | % of total. | H M | % of total | H M | % of total | H M | % of total | H M | % of total | H M | % of total | H M | % of total | H M | % of total | H M | % of total. | H M | % of total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost by storms and weather | | | | | | | 14 30 | 15·11 | 14 00 | 3·59 | 91 00 | 50·41 | 279 00 | 41·21 | 40 00 | 20 52 | 438 30 | 25·63 |
| " repairs | | | 13 30 | 12·21 | | | 15 30 | 16·14 | 19 40 | 5·03 | | | 20 15 | 2·99 | 60 00 | 30·76 | 128 55 | 7·53 |
| " coaling | | | | | | | | | 35 00 | 8·96 | 5 00 | 2·77 | 66 20 | 9·79 | | | 106 20 | 6·21 |
| " watering | | | | | | | | | | | | | | | | | | |
| " tide and current | | | | | | | | | | | | | | | | | | |
| " cleaning plant | | | | | | | | | | | | | | | | | | |
| " cleaning boilers | | | | | | | | | | | | | | | | | | |
| " inspecting boilers | | | | | | | | | | | | | | | | | | |
| " holidays | | | | | 10 00 | 58·82 | | | 10 00 | 2·56 | | | 10 00 | 1·47 | 20 00 | 10·26 | 50 00 | 2·92 |
| " waiting on scows or tug | | | | | | | | | 7 40 | 1·95 | 20 30 | 11·36 | 41 00 | 6·06 | 3 30 | 1·79 | 72 40 | 4 25 |
| " waiting orders | 20 00 | 46·18 | 20 00 | 18·10 | | | | | | | | | | | | | 40 00 | 2·33 |
| " towing and preparing for work | | | 10 00 | 9·05 | | | | | 78 00 | 19·99 | | | | | | | 88 00 | 5·14 |
| " moving dredge and changing cut | | | 23 00 | 20·81 | | | 34 00 | 35·42 | | | | | 20 30 | 3·03 | 44 00 | 22·57 | 121 30 | 7·10 |
| " short of coal or supplies | | | | | | | | | | | 30 00 | 16·62 | | | | | 30 00 | 1·81 |
| " | | | 4 00 | 3·63 | | | | | | | | | | | | | 4 00 | 0·23 |
| " miscellaneous | 10 50 | 24·97 | | | | | 6 00 | 6·25 | 31 20 | 8 00 | | | 8 00 | 1·18 | | | 56 10 | 3·28 |
| Total lost time | 30 50 | 71·15 | 70 30 | 63·80 | 10 00 | 58·82 | 70 00 | 72·92 | 195 40 | 50·08 | 146 30 | 81·16 | 445 00 | 65·73 | 167 30 | 85·90 | 1136 00 | 66·43 |
| Time actually dredging | 12 30 | 28·85 | 40 00 | 36·20 | 7 00 | 41·18 | 26 00 | 27·08 | 195 00 | 49·92 | 34 00 | 18·84 | 232 00 | 34·27 | 27 30 | 14·10 | 574 00 | 33·57 |
| Possible dredging time | 43 20 | 100 | 110 30 | 100 | 17 00 | 100 | 96 00 | 100 | 390 40 | 100 | 180 30 | 100 | 677 00 | 100 | 195 00 | 100 | 1710 00 | 100 |

*Names of Departmental Tugs included in expenditure, dates between which employed, and localities.*—Tug *Sovereign*, Aug. 26 to Nov. 16 at Little Bras d'Or, Alder Point, North Sydney.

*Names of Rented Tugs included in expenditure, dates between which employed, and localities.*—*E. M Cates*, April 29 to Sept. 3; *Boomtan*, May 23 to Dec. 9; *Nelson*, Aug. 15 to 21, and Nov. 25 to Dec. 9; at N.S. Steel and Coal Co., McKay's Point, McDonald Ore Pier, Ballast, Port Hawkesbury, Little Bras d'Or, Alder Point, North Sydney wharfs; tug *H. L. M. Punt*, June 11-12, towing from Baddeck to Hawkesbury; *Douglas H. Thomas*, May 23-24 from North Sydney to Baddeck and return; tug *Canso*, towing Alder Point to Hawkesbury, Dec 3rd to 12th; tug *Lusgar*, assisting, Dec. 11th.

*Date Dredge put in Commission.*—May 14th. *Dredge laid up for winter at* Hawkesbury, N.S., Nov. 28th

*Remarks.*—Time lost at Alder Point due to very exposed position of work. Time lost at North Sydney, I C R. wharf, due to break-down of dredge boom, repairs being made from Aug. 11 to 27th.

## NOVA SCOTIA—*Continued.*

### Departmental Dredge 'No. 7,' and Plant in Attendance.

| —— | April. | May. | June. | July. | August. | September. | October. | November. | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c.yds | 5,225 | 14,835 | 15,400 | 16,000 | 18,300 | 10,300 | 12,900 | 10,300 | 3,900 | ..... | ..... | ..... | 107,160 |
| Kind of material | Mud, saw-dust. | Mud, saw-dust. | Mud, saw-dust. | Mud, saw-dust. | Mud, saw-dust. | Mud, saw-dust. | Mud, saw-dust. | Mud, saw-dust. | Mud, saw-dust. | ..... | ..... | ..... | ..... |
| | H. M. | H. M. | H. M. | H. M. | H. M. | H. M. | H. M. | H. M. | H. M. | | | | H. M. |
| Total possible dredging time | 100 00 | 270 00 | 250 00 | 270 00 | 270 00 | 250 00 | 270 00 | 260 00 | 150 00 | ..... | ..... | ..... | 2,090 00 |
| Hours actually dredging | 63 00 | 147 05 | 154 45 | 174 50 | 198 25 | 102 30 | 151 25 | 126 40 | 61 20 | ..... | ..... | ..... | 1,180 00 |
| Per hour, actually dredging.....c. yds. | 82·94 | 100·35 | 99·52 | 91·52 | 92·23 | 100·48 | 85·19 | 81·32 | 63·59 | ..... | ..... | ..... | 90·81 |

### DETAILS OF EXPENDITURE.

| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | ..... | 782 00 | 782 00 | 782 00 | 783 67 | 786 38 | 782 00 | 776 56 | 781 40 | ..... | 387 00 | ..... | 6,643 01 |
| Provisions | 36 04 | 307 46 | 190 05 | 199 95 | 199 50 | 180 00 | 186 00 | 180 00 | 186 00 | ..... | 105 00 | ..... | 1,770 00 |
| Fuel | 209 00 | 248 00 | 312 00 | 320 00 | 324 30 | 293 20 | 348 25 | 319 00 | 277 50 | ..... | ..... | ..... | 2,651 25 |
| Stores and equipment | 9 75 | 1,029 57 | 53 98 | 64 34 | 170 26 | 185 77 | ..... | 77 62 | 436 72 | ..... | ..... | ..... | 2,028 01 |
| Contingencies | ..... | 25 66 | 6 00 | 4 20 | 5 40 | 5 10 | 7 80 | 15 75 | 27 56 | ..... | ..... | ..... | 97 47 |
| Water | 3 12 | 3 75 | 7 50 | 8 00 | ..... | 28 00 | ..... | 9 75 | 7 50 | ..... | ..... | ..... | 67 62 |
| Pilotage and towage | ..... | 333 55 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 333 55 |
| Wharfage | ..... | ..... | ..... | ..... | ..... | 75 00 | ..... | 15 00 | 15 00 | ..... | ..... | ..... | 105 00 |
| Rental hired tugs | 630 00 | 1,170 00 | 1,080 00 | 1,170 00 | 1,215 00 | 1,080 00 | 1,170 00 | 1,170 00 | ..... | 1,125 00 | ..... | ..... | 9,810 00 |
| Repairs (inc. all items charged to D.V. rep'rs) | 806 92 | 3,858 24 | 556 88 | 394 02 | 1,207 75 | ..... | 160 08 | 409 93 | ..... | 556 93 | 296 00 | 495 50 | 8,742 25 |
| Repairs—Extraordin'y | 224 00 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 224 00 |
| Totals | 1,918 83 | 7,758 23 | 2,988 41 | 2,942 51 | 3,905 88 | 2,633 45 | 2,654 13 | 2,973 61 | 1,731 68 | 1,681 93 | 788 00 | 495 50 | 32,472 16 |

### EXPENDITURE INCURRED WORKING AT

| —— | Liverpool, N.S. | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | $ cts. | | | | | | | | | $ cts. |
| Wages—Dredge | 6,643 01 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 6,643 01 |
| " Departmental tugs | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Provisions—Dredge | 1,770 00 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1,770 00 |
| " Departmental tugs | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Fuel—Dredge | 2,651 25 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 2,651 25 |
| " Departmental tugs | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Stores and equipment—Dredge | 2,028 01 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 2,028 01 |
| " Departmental tugs | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Contingencies—Dredge | 97 47 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 97 47 |
| " Departmental tugs | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Water—Dredge | 67 62 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 67 62 |
| " Departmental tugs | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Pilotage and towage—Dredge | 333 55 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 333 55 |
| " Departmental tugs | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Wharfage—Dredge | 105 00 | | | | | | | | | 105 00 |
| " Departmental tugs | | | | | | | | | | |
| Repairs—Dredge | 8,742 25 | | | | | | | | | 8,742 25 |
| " Departmental tugs | | | | | | | | | | |
| Repairs, extraordinary—Dredge | 224 00 | | | | | | | | | 224 00 |
| " Departmental tugs | | | | | | | | | | |
| Rental of hired tugs | 9,810 00 | | | | | | | | | 9,810 00 |
| Total expenditure—Dredge | 32,472 16 | | | | | | | | | 32,472 16 |
| Total expenditure—Departmental tugs | | | | | | | | | | |
| Total expenditure—Hired tugs | | | | | | | | | | |
| Total—Complete expenditure | 32,472 16 | | | | | | | | | 32,472 16 |
| Cubic yards removed | 107,160 | | | | | | | | | 107,160 |
| Cost per cu. yd. (calculated from total expend're) | ·3030 | | | | | | | | | ·3030 |
| Cost per hour actually dredging | 27·510 | | | | | | | | | 27·510 |
| Kind of material | Mud and sawdust. | | | | | | | | | |
| Work commenced | April 19. | | | | | | | | | |
| Work completed | Dec. 18. | | | | | | | | | |

DISTRIBUTION OF TIME IN HOURS.

| | H. | M. | % of total. | | % of total. | | % of total | | % of total. | | % of total. | | % of total. | | % of total. | H. | M. | % of total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost by storms and weather | 301 | 00 | 14·41 | | | | | | | | | | | | | 301 | 00 | 14·41 |
| " repairs | 262 | 05 | 12·57 | | | | | | | | | | | | | 262 | 05 | 12·57 |
| " coaling | 10 | 40 | ·51 | | | | | | | | | | | | | 10 | 40 | ·51 |
| " watering | | | | | | | | | | | | | | | | | | |
| " tide and current | 130 | 25 | 6·25 | | | | | | | | | | | | | 130 | 25 | 6·25 |
| " cleaning plant | | | | | | | | | | | | | | | | | | |
| " cleaning boilers | | | | | | | | | | | | | | | | | | |
| " inspecting boilers | 10 | 00 | ·47 | | | | | | | | | | | | | 10 | 00 | ·47 |
| " holidays | 50 | 00 | 2·39 | | | | | | | | | | | | | 50 | 00 | 2·39 |
| " waiting on scows or tug | | | | | | | | | | | | | | | | | | |
| " waiting orders | | | | | | | | | | | | | | | | | | |
| " towing and preparing for work | 10 | 00 | ·47 | | | | | | | | | | | | | 10 | 00 | ·47 |
| " moving dredge and changing cut | 77 | 20 | 3·70 | | | | | | | | | | | | | 77 | 20 | 3·70 |
| " short of coal or supplies | | | | | | | | | | | | | | | | | | |
| " fog | 14 | 00 | ·66 | | | | | | | | | | | | | 14 | 00 | ·66 |
| " no report | 8 | 00 | ·38 | | | | | | | | | | | | | 8 | 00 | ·38 |
| " miscellaneous | 36 | 30 | 1·74 | | | | | | | | | | | | | 36 | 30 | 1·74 |
| Total lost time | 910 | 00 | 43·55 | | | | | | | | | | | | | 910 | 00 | 43·55 |
| Time actually dredging | 1180 | 00 | 56·45 | | | | | | | | | | | | | 1180 | 00 | 56·45 |
| Possible dredging time | 2090 | 00 | 100·00 | | | | | | | | | | | | | 2090 | 00 | 100·00 |

*Names of Departmental Tugs included in expenditure and dates between which employed, and localities.*—None.
*Names of Rented Tugs included in expenditure, dates between which employed, and localities.*—Tug *Delbert D.* from April 15 to Dec. 31, at Liverpool, N.S.
*Date Dredge put in Commission.*—19th April. *Dredge laid up for winter at* Liverpool, N.S., 18th Dec.
*Remarks.*—Dredge out of commission May 25 to June 6 with broken crank shaft; also Sept. 2 to 10, owing to boiler repairs being necessary. Considerable time lost in December due to bad weather.

## NOVA SCOTIA.—*Concluded.*

### Departmental Dredge 'No. 8,' and Plant in Attendance.

| | April. | May. | June. | July. | August. | September. | October. | November | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c.yds | | 700 | 3,280 | 4,200 | 2,080 | 4,400 | 6,875 | 4,750 | | | | | 26,285 |
| Kind of material | | Mud. | Mud. | Mud. | Mud. | Packed sand | Fine sand. | Fine sand. | | | | | |
| | | H. M. | H. M. | H. M. | H. M. | H. M. | H. M. | H. M. | | | | | H. M. |
| Total possible dredging time | | 60 00 | 250 00 | 270 00 | 270 00 | 250 00 | 270 00 | 200 00 | | | | | 1,570 00 |
| Hours actually dredging | | 14 00 | 68 30 | 90 30 | 50 00 | 145 00 | 197 00 | 141 00 | | | | | 706 00 |
| Per hour, actually dredging.....c. yds | | 50·00 | 47·88 | 46·40 | 41·60 | 30·34 | 34·89 | 33·69 | | | | | 37·23 |

### Details of Expenditure.

| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | 13 50 | 548 64 | 560 00 | 554 44 | 560 00 | 560 00 | 560 00 | 560 00 | 341 09 | | | | 4,257 67 |
| Provisions | 68 66 | 177 00 | 180 00 | 176 00 | 186 00 | 180 00 | 186 00 | 180 00 | 92 00 | 43 00 | | | 1,468 66 |
| Fuel | 21 39 | 58 69 | | 54 25 | 57 19 | 222 00 | | 59 79 | | | | | 473 31 |
| Stores and equipment | 99 54 | 79 67 | 45 75 | 324 77 | 13 51 | 128 02 | | 112 27 | | | | | 803 53 |
| Contingencies | | 8 45 | 11 65 | | 31 10 | | 5 16 | | 10 20 | 4 14 | | 29 00 | 99 70 |
| Water | | | | | 20 00 | 15 00 | | 35 00 | | | | | 70 00 |
| Pilotage and towage | | | | | | | | | | | | | |
| Wharfage | | 35 00 | | | | | | 10 00 | | | | | 45 00 |
| Rental hired tugs | | | | 55 00 | | | | | | | | | 55 00 |
| Repairs (inc. all items charged to D.V.rep'rs) | 442 11 | | 345 37 | 108 49 | 492 30 | | | | | 49 98 | 260 00 | 261 50 | 1,959 75 |
| Repairs—Extraordin'y | | 1,034 50 | | | | | | | | 215 00 | | | 1,249 50 |
| Totals | 645 20 | 1,941 95 | 1,142 77 | 1,272 95 | 1,360 10 | 1,105 02 | 751 16 | 957 06 | 443 29 | 312 12 | 260 00 | 290 50 | 10,482 12 |

### Expenditure Incurred Working At:

| | Pictou, I. C. R. Wharf. | Pictou, Abercrombie Wharf. | Sonora Channel. | — | — | — | — | — | Totals. |
|---|---|---|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | $ cts. | | | | | | $ cts. |
| Wages—Dredge | 500 45 | 844 69 | 2,912 53 | | | | | | 4,257 67 |
| " Departmental tugs | 483 55 | 815 64 | 2,814 01 | | | | | | 4,113 20 |
| Provisions—Dredge | 172 70 | 291 32 | 1,004 64 | | | | | | 1,468 66 |
| " Departmental tugs | 192 56 | 324 80 | 1,119 62 | | | | | | 1,636 98 |
| Fuel—Dredge | 55 64 | 93 86 | 323 81 | | | | | | 473 31 |
| " Departmental tugs | 125 57 | 211 82 | 731 27 | | | | | | 1,068 66 |
| Stores and equipment—Dredge | 94 63 | 158 66 | 550 24 | | | | | | 803 53 |
| " " Departmental tugs | 109 80 | 185 22 | 639 30 | | | | | | 934 32 |
| Contingencies—Dredge | 11 76 | 19 74 | 68 20 | | | | | | 99 70 |
| " Departmental tugs | 44 23 | 74 62 | 257 17 | | | | | | 376 02 |
| Water—Dredge | 8 27 | 13 87 | 47 86 | | | | | | 70 00 |
| " Departmental tugs | | 60 | | | | | | | 60 |
| Pilotage and towage—Dredge | | | | | | | | | |
| " " Departmental tugs | 13 11 | 22 12 | 76 27 | | | | | | 111 50 |

| | | |

# PRINCE EDWARD ISLAND.

## Departmental Dredge 'No. 9,' and Plant in Attendance.

| | April. | May. | June | July. | August. | September. | October. | November. | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c.yds. | ..... | 7,078 | 11,100 | 9,000 | 12,500 | 4,700 | 23,600 | 15,400 | 7,200 | 1,600 | ..... | ..... | 92,178 |
| Kind of material | ..... | Sand..... | Sand..... | Mud and clay. | Sand and Mud. | Mud..... | Mud..... | Mud..... | Brick clay | Clay and gravel. | ..... | ..... | ..... |
| | | H. M. | H. M. | H. M. | H. M. | H. M. | H. M. | H. M. | H. M. | H. M. | | | H. M. |
| Total possible dredging time | ..... | 190 00 | 250 00 | 270 00 | 270 00 | 250 00 | 270 00 | 260 00 | 260 00 | 60 00 | ..... | ..... | 2,080 00 |
| Hours actually dredging | ..... | 157 30 | 163 00 | 181 00 | 178 00 | 59 00 | 230 00 | 158 00 | 103 00 | 30 30 | ..... | ..... | 1,260 00 |
| C. yds. per hour, actually dredging | ..... | 44·93 | 68·09 | 49·72 | 70·22 | 79·66 | 102·61 | 97·46 | 69·90 | 52·46 | ..... | ..... | 73' 16 |

## Details of Expenditure.

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| Wages | ..... | 518 54 | 544 50 | 545 00 | 562 00 | 545 00 | 545 00 | 588 20 | 581 00 | ..... | ..... | ..... | 4,429 24 |
| Provisions | ..... | 167 50 | 175 50 | 186 00 | 192 87 | 180 00 | 186 00 | 180 00 | 186 00 | 173 00 | ..... | ..... | 1,626 87 |
| Fuel | ..... | 187 65 | 274 15 | 176 96 | 313 00 | 174 60 | 228 84 | 222 53 | 308 40 | 51 73 | ..... | ..... | 1,937 86 |
| Stores and equipment | 118 63 | 104 43 | 87 47 | 100 25 | 193 95 | 10 09 | 131 74 | 41 80 | 130 63 | 25 40 | ..... | ..... | 944 39 |
| Contingencies | 8 70 | 25 05 | ..... | ..... | 8 60 | 40 58 | 27 05 | ..... | 6 35 | 16 00 | ..... | 10 67 | 143 00 |
| Water | ..... | 13 50 | 20 50 | 25 00 | 34 00 | 32 00 | 19 00 | 20 00 | 16 00 | ..... | ..... | ..... | 180 00 |
| Pilotage and towage | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 16 40 | ..... | ..... | ..... | ..... | 16 40 |
| Wharfage | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Rental hired tugs | ..... | 350 00 | 575 00 | ..... | 675 00 | 1,000 00 | 600 00 | 1,300 00 | 625 00 | 312 50 | ..... | ..... | 5,637 50 |
| Repairs, (inc. all items charged to D.V rep'rs). | 826 12 | ..... | 10 74 | ..... | 89 01 | 881 47 | ..... | 140 03 | 211 43 | 521 96 | 499 49 | 340 76 | 3,521 01 |
| Repairs—Extraordinary | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1,250 00 | ..... | 1,250 00 |
| Totals | 953 45 | 1,566 67 | 1,687 86 | 1,033 21 | 2,068 43 | 2,863 74 | 1,737 63 | 2,508 96 | 2,064 81 | 1,100 59 | 1,749 49 | 351 43 | 19,686 27 |

## Expenditure Incurred Working at:

| | Souris Harbour. | Montague River. | Georgetown Harbour. | | | | | Totals. |
|---|---|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| Wages—Dredge | 2,562 43 | 1,391 94 | 474 87 | ..... | ..... | ..... | ..... | 4,429 24 |
| " Departmental tugs | 947 70 | 514 80 | 164 37 | ..... | ..... | ..... | ..... | 1,626 87 |
| Provisions—Dredge | 1,112 37 | 605 88 | 219 61 | ..... | ..... | ..... | ..... | 1,937 86 |
| " Departmental tugs | 546 75 | 290 00 | 107 64 | ..... | ..... | ..... | ..... | 944 39 |
| Fuel—Dredge | 80 20 | 39 60 | 23 20 | ..... | ..... | ..... | ..... | 143 00 |
| " Departmental tugs | 102 00 | 55 50 | 22 50 | ..... | ..... | ..... | ..... | 180 00 |
| Stores and equipment—Dredge | ..... | 16 40 | ..... | ..... | ..... | ..... | ..... | 16 40 |
| " Departmental tugs | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Contingencies—Dredge | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| " Departmental tugs | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Water—Dredge | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| " Departmental tugs | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Pilotage and towage—Dredge | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| " Departmental tugs | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wharfage—Dredge | | | | | | | | | | | | | | | | | | | | |
| " Departmental tugs | | | | | | | | | | | | | | | | | | | | |
| Repairs—Dredge | | | | | | | | | | | | | | | | | | | | |
| " Departmental tugs | 2,052 29 | | 1,118 24 | | 350 48 | | | | | | | | | | | | | | 3,521 01 | |
| Repairs, extraordinary—Dredge | | | | | | | | | | | | | | | | | | | | |
| " Departmental tugs | 721 70 | | 392 00 | | 136 30 | | | | | | | | | | | | | | 1,250 00 | |
| Rental of hired tugs | | | | | | | | | | | | | | | | | | | | |
| Total expenditure—Dredge | 3,272 83 | | 1,770 12 | | 594 55 | | | | | | | | | | | | | | 5,637 50 | |
| Total expenditure—Departmental tugs | 11,398 27 | | 6,194 48 | | 2,093 52 | | | | | | | | | | | | | | 19,686 27 | |
| Total expenditure—Hired tugs | | | | | | | | | | | | | | | | | | | | |
| Total—Complete expenditure | 11,398 27 | | 6,194 48 | | 2,093 52 | | | | | | | | | | | | | | 19,686 27 | |
| Cubic yards removed | 40,278 | | 44,500 | | 7,400 | | | | | | | | | | | | | | 92,178 | |
| Cost per cu yd. (calculated from total expenditure) | $·2829 | | $·1392 | | $·2829 | | | | | | | | | | | | | | $·2135 | |
| Cost per hour actually dredging | $15·624 | | $15·623 | | $15·623 | | | | | | | | | | | | | | $15·623 | |
| Kind of material | Sand | | Sand | | Sand and mud | | | | | | | | | | | | | | | |
| Work commenced | May 10th | | Sept. 26th and Dec. 10th. | | Nov. 27th and Dec. 14th. | | | | | | | | | | | | | | | |
| Work completed | Sept. 4th | | Nov. 23rd–Dec. 12th. | | Dec. 5th–Jan. 6th. | | | | | | | | | | | | | | | |

DISTRIBUTION OF TIME IN HOURS.

| | | % of total. | H. M. | % of total. | H. M. | % of total. | H. M. | % of total. | H. M. | % of total | H. M. | % of total | H. M. | % of total. | H. M. | % of total. | H. M. | % of total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost by storms and weather | 36 00 | 3·49 | 28 00 | 3·74 | 64 00 | 21·80 | | | | | | | | | | | 128 00 | 6·16 |
| " repairs | 80 00 | 7·68 | 14 30 | 1·94 | 8 00 | 2·80 | | | | | | | | | | | 102 30 | 4·93 |
| " coaling | 38 30 | 3·69 | 35 00 | 4·76 | | | | | | | | | | | | | 73 30 | 3·53 |
| " watering | | | | | | | | | | | | | | | | | | |
| " tide and current | 8 30 | ·79 | | | | | | | | | | | | | | | | |
| " cleaning plant | | | | | | | | | | | | | | | | | 8 30 | ·40 |
| " cleaning boilers | | | | | | | | | | | | | | | | | | |
| " inspecting boilers | 10 00 | ·98 | | | | | | | | | | | | | | | | |
| " holidays | 40 00 | 3·88 | 10 00 | 1·33 | 20 00 | 6·95 | | | | | | | | | | | 10 00 | ·48 |
| " waiting on scows or tugs | | | | | | | | | | | | | | | | | 70 00 | 3·37 |
| " waiting orders | 11 00 | ·98 | | | | | | | | | | | | | | | | |
| " towing and preparing for work | | | | | | | | | | | | | | | | | 11 00 | ·52 |
| " moving dredge and changing cut | 1 00 | ·10 | 210 00 | 28·15 | 42 00 | 14·43 | | | | | | | | | | | | |
| " short of coal or supplies | | | | | | | | | | | | | | | | | 253 00 | 12·16 |
| " fog | 3 00 | ·28 | | | | | | | | | | | | | | | | |
| " miscellaneous | 84 00 | 8·08 | 51 30 | 6·90 | 25 00 | 8·63 | | | | | | | | | | | 3 00 | ·14 |
| Total lost time | 312 00 | 29·95 | 349 00 | 46·82 | 159 00 | 54·61 | | | | | | | | | | | 160 30 | 7·73 |
| Time actually dredging | 729 30 | 70·05 | 396 30 | 53·18 | 134 00 | 45·39 | | | | | | | | | | | 820 00 | 39·42 |
| Possible dredging time | 1041 30 | 100·00 | 745 30 | 100·00 | 293 00 | 100·00 | | | | | | | | | | | 1260 00 | 60·58 |
| | | | | | | | | | | | | | | | | | 2080 00 | 100·00 |

*Names of Departmental Tugs included in expenditure, dates between which employed, and localities.*—None.

*Names of Rented Tugs included in expenditure, dates between which employed, and localities.*—Tug *F. M. Batt*, from May 7 to Sept. 9, at Souris, P.E.I., Pictou; repairs, Sept. 9 to 17; Montague, Sept. 18 to Nov. 26; at Georgetown, P.E.I., Nov. 27 to Jan. 6. Tug *Pekin*, towing to Pictou for repairs, Sept. 9 and 10, returning to Montague Sept. 18.

*Date Dredge put in Commission.*—May 10. *Dredge laid up for winter at* Georgetown, 6th January, 1913.

*Remarks.*—Dredge towed to Pictou to go on slip for painting and repairing, and then towed to Montague, Sept. 5 to 24.

# PRINCE EDWARD ISLAND—*Continued.*

## Departmental Dredge 'No. 10,' and Plant in Attendance.

| | April. | May. | June. | July. | August. | September. | October. | November. | December. | January. | February. | March. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c. yd. | | 6,204 | 9,250 | 8,400 | 8,450 | 8,225 | 8,650 | 7,575 | | | | | 56,054 |
| Kind of material | | Soft mud | Soft mud | Soft mud & sand. | Mud & sand | Mud & sand | Soft mud | Mud, sand & brick clay. | | | | | |
| | | H. M. | H. M. | H. M. | H. M. | H. M. | H. M. | H. M. | | | | | H. M. |
| Total possible dredging time | | 190 00 | 250 00 | 270 00 | 270 00 | 250 00 | 270 00 | 260 00 | | | | | 1,760 00 |
| Hours actually dredging | | 127·30 | 141·00 | 168·45 | 156·20 | 122·30 | 108·20 | 106·35 | | | | | 871 00 |
| Per hour actually dredging c. yds. | | 48·66 | 65·60 | 77·23 | 54·05 | 67·14 | 79·84 | 71·07 | | | | | 65·15 |

## Details of Expenditure.

| | April. | May. | June. | July. | August. | September. | October. | November. | December. | January. | February. | March. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| Wages | 697 50 | 914 51 | 515 50 | 505 00 | 575 00 | 581 53 | 572 50 | 582 57 | 492 43 | | | | 5,436 54 |
| Provisions | 30 00 | 158 00 | 169 50 | 54 14 | 178 34 | 171 40 | 170 50 | 167 75 | 156 10 | 70 00 | | | 1,325 73 |
| Fuel | | 88 65 | 77 73 | 170 50 | 65 27 | 63 23 | | 119 70 | 74 71 | 27 45 | | | 68724 |
| Stores and equipment | 32 25 | 472 45 | | 30 00 | 307 26 | 5 00 | 24 00 | 166 15 | 145 27 | 290 63 | | | 1,473 01 |
| Contingencies | | 21 41 | | | 6 00 | 21 57 | | 15 93 | 90 | | | | 65 81 |
| Water | 4 00 | 3 00 | | 35 00 | | | 3 81 | | 10 00 | 40 00 | | | 95 81 |
| Pilotage and towage | | | | | | | | | | 9 00 | | | 9 00 |
| Wharfage | | 15 00 | | | | | 600 00 | 660 00 | 650 00 | 25 00 | | | 15 00 |
| Rental hired tugs | | 475 00 | 625 00 | 650 00 | 600 00 | | | | | | | | 4,285 00 |
| Repairs (inc. all items charged to D.V. rep'rs) | 316 17 | 237 72 | 124 31 | 18 69 | 149 08 | | 42 61 | 156 39 | 554 85 | 348 19 | 365 75 | 428 22 | 2,741 98 |
| Repairs—Extraordin'y | | | | | | | | | | | | | |
| Totals | 1,079 92 | 2,385 74 | 1,512 04 | 1,463 33 | 1,880 95 | 842 73 | 1,413 42 | 1,868 49 | 2,084 26 | 810 27 | 365 75 | 428 22 | 16,135 12 |

## Expenditure Incurred Working at:

| | Southport Wharf. | Asylum Wharf. | Hickey Wharf. | Mount Stewart. | | | | Totals. |
|---|---|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | $ cts. | $ cts. | | | | $ cts. |
| Wages—Dredge | 1,672 32 | 2,162 80 | 350 44 | 1,250 98 | | | | 5,436 54 |
| " Departmental tugs | 407 36 | 524 40 | 85 12 | 308 85 | | | | 1,325 73 |
| Provisions—Dredge | 211 72 | 272 55 | 44 14 | 158 83 | | | | 687 24 |
| " Departmental tugs | 452 92 | 583 05 | 94 64 | 342 40 | | | | 1,473 01 |
| Fuel—Dredge | 21 44 | 27 60 | 4 48 | 12 29 | | | | 65 81 |
| " Departmental tugs | 29 48 | 37 95 | 6 16 | 22 22 | | | | 95 81 |
| Stores and equipment—Dredge | | | | 9 00 | | | | 9 00 |
| " " Departmental tugs | | | | | | | | |
| Contingencies—Dredge | | | | | | | | |
| " Departmental tugs | | | | | | | | |
| Water—Dredge | | | | | | | | |
| " Departmental tugs | | | | | | | | |
| Pilotage and towage—Dredge | | | | | | | | |
| " " Departmental tugs | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Wharfage—Dredge | 15 00 | | | | | | | | 15 00 |
| " Departmental tugs | | | | 711 94 | | | | | |
| Repairs—Dredge | 849 93 | 1,103 20 | 76 91 | | | | | | 2,741 98 |
| " Departmental tugs | | | | | | | | | |
| Repairs, extraordinary—Dredge | | | | | | | | | |
| " " Departmental tugs | | | | | | | | | |
| Rental of hired tugs | 1,318 50 | 1,679 40 | 375 50 | 911 60 | | | | | 4,285 00 |
| Total expenditure—Dredge | 4,978 67 | 6,390 95 | 1,037 39 | 3,728 11 | | | | | 16,135 12 |
| Total expenditure—Departmental tugs | | | | | | | | | |
| Total expenditure—Hired tugs | | | | | | | | | |
| Total complete expenditure | 4,978 67 | 6,390 95 | 1,037 39 | 3,728 11 | | | | | 16,135 12 |
| Cubic yards removed | 15,454 | 3,750 | 4,750 | 32,800 | | | | | 56,754 |
| Cost per cu. yd. (calculated from total expenditure) | $0·3222 | $1·704 | $0·2184 | $0·1137 | | | | | $0·2843 |
| Cost per hour actually dredging | $18·525 | $18·525 | $18·524 | $18·524 | | | | | $18·524 |
| Kind of material | Soft mud. | Soft mud. | Mud & sand. | Soft mud, sand and clay. | | | | | |
| Work commenced | May 10th | July 2nd | July 16th | Aug. 1st | | | | | |
| Work completed | June 28th | July 12th | July 29th and Nov. 30th | Nov. 29th | | | | | |

## DISTRIBUTION OF TIME IN HOURS.

| | H. | M. | % of total. | H. | M. | % of total. | H. | M. | % of total. | H. | M. | % of total. | H. | M. | % of total. | H. | M. | % of total. | H. | M. | % of total. | H. | M. | % of total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost by storms and weather | 43 | 00 | 9·93 | 56 | 00 | 7·50 | 20 | 30 | 12·15 | 21 | 30 | 5·24 | | | | | | | | | | 141 | 00 | 8·00 |
| " repairs | 46 | 55 | 10·82 | 7 | 30 | 1·00 | | | | 10 | 00 | 2·44 | | | | | | | | | | 64 | 25 | 3·66 |
| " coaling | 16 | 00 | 3·70 | 20 | 00 | 2·67 | 7 | 00 | 4·14 | | | | | | | | | | | | | 43 | 00 | 2·44 |
| " watering | | | | | | | | | | | | | | | | | | | | | | | | |
| " tide and current | 23 | 30 | 5·42 | 234 | 45 | 31·41 | 60 | 45 | 36·00 | 137 | 55 | 33·58 | | | | | | | | | | 456 | 55 | 25·95 |
| " cleaning plant | | | | | | | | | | | | | | | | | | | | | | | | |
| " cleaning boilers | | | | | | | | | | | | | | | | | | | | | | | | |
| " inspecting boilers | | | | 20 | 00 | 2·68 | | | | | | | | | | | | | | | | 20 | 00 | 1·14 |
| " holidays | 20 | 00 | 4·61 | 10 | 00 | 1·34 | | | | 10 | 00 | 2·44 | | | | | | | | | | 40 | 00 | 2·28 |
| " waiting on scow or tug | | | | | | | | | | | | | | | | | | | | | | | | |
| " waiting orders | | | | | | | | | | | | | | | | | | | | | | | | |
| " towing and preparing for work | | | | | | | | | | | | | | | | | | | | | | | | |
| " moving dredge and changing cut | 9 | 30 | 2·20 | 19 | 00 | 2·54 | 21 | 30 | 12·74 | 30 | 00 | 7·30 | | | | | | | | | | 80 | 00 | 4·56 |
| " short of coal or supplies | | | | | | | | | | | | | | | | | | | | | | | | |
| Miscellaneous | 5 | 45 | 1·32 | 34 | 55 | 4·68 | 3 | 00 | 1·79 | | | | | | | | | | | | | 43 | 40 | 2·48 |
| Total lost time | 164 | 40 | 38·00 | 402 | 10 | 53·82 | 112 | 45 | 66·82 | 209 | 25 | 51·00 | | | | | | | | | | 889 | 00 | 50·51 |
| Time actually dredging | 268 | 45 | 62·00 | 345 | 00 | 46·18 | 56 | 00 | 33·18 | 201 | 15 | 49·00 | | | | | | | | | | 871 | 00 | 49·49 |
| Possible dredging time | 433 | 25 | 100·00 | 747 | 10 | 100·00 | 168 | 45 | 100·00 | 410 | 40 | 100·00 | | | | | | | | | | 1760 | 00 | 100·00 |

*Names of Departmental Tugs included in expenditure, dates between which employed, and localities*—None.

*Names of Rented Tugs included in expenditure, dates between which employed, and localities.*—Tug *Islander*, from May 10 to June 28, at Southport wharf; July 2 to 12, at Asylum wharf; July 16 to 20 and Nov. 30, at Hickey wharf; Sept. 2 to Nov. 29, at Mt. Stewart. Tug *F. M. Batt*, July 22 to 29 at Hickey wharf, and August 1 to 30 at Mt. Stewart.

*Date Dredge put in commission*—10th May. *Dredge laid up for winter at* Charlottetown, P.E.I., 30th November.

*Remarks.*—Dredge lost considerable time all season owing to channel being too shallow at low tide to operate scows.

# PRINCE EDWARD ISLAND—*Concluded.*

## Departmental Dredge 'No. 11,' and Plant in Attendance.

| —— | April. | May. | June. | July. | August. | September. | October. | November. | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c.yds | | 921 | 945 | 4,231 | 4,650 | 2,600 | 3,600 | 4,350 | 650 | | | | 21,947 |
| Kind of material | | Mud and clay. | Sand and stone. | Sand, stone and gravel. | Sand, clay and gravel. | Sand and stone. | Clay and gravel. | Stone, Mud and gravel. | Mud. | | | | |
| Total possible dredging time | | H. M. 110 00 | H. M. 250 00 | H. M. 270 00 | H. M. 270 00 | H. M. 250 00 | H. M. 270 00 | H. M. 260 00 | H. M. 60 00 | | | | H. M. 1,740 00 |
| Hours actually dredging | | 86 30 | 69 30 | 170 00 | 172 00 | 87 00 | 127 00 | 130 30 | 21 00 | | | | 863 30 |
| Per hour, actually dredging.....c. yds. | | 10 64 | 13 59 | 24·88 | 27·03 | 29·88 | 28·34 | 33·33 | 30·95 | | | | 25·416 |

## Details of Expenditure.

| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | 216 59 | 653 37 | 385 41 | 421 50 | 418 05 | 417 16 | 498 00 | 430 00 | 446 99 | | | | 3,887 07 |
| Provisions | 35 50 | 97 25 | 116 50 | 125 25 | 124 00 | 129 50 | 139 50 | 135 00 | 113 00 | | | | 1,015 50 |
| Fuel | 105 16 | 222 03 | | | 348 75 | 16 50 | 50 88 | 6 00 | | | | | 749 32 |
| Stores and equipment | | 277 82 | 80 10 | 73 21 | 5 21 | 57 00 | 18 50 | 24 99 | 179 12 | 54 12 | | | 770 07 |
| Contingencies | | 16 70 | 21 14 | 11 01 | 16 77 | 28 15 | 42 55 | | 4 87 | 22 20 | 6 10 | | 169 49 |
| Water | | 3 60 | 2 20 | 15 50 | 15 50 | 14 00 | 13 00 | | 9 00 | | | | 72 80 |
| Pilotage and towage | | | | 6 00 | 14 00 | 10 00 | | | | | | | 30 00 |
| Wharfage | | | | | | | | | | | | | |
| Rental hired tugs | | 400 00 | 1,118 00 | 656 00 | 675 00 | | 152 00 | 1,325 00 | 875 00 | 255 00 | | | 5,456 00 |
| Repairs (inc. all items charged to D.V.repairs) | 695 58 | 291 84 | | | 110 57 | 3 00 | | 44 48 | 109 95 | 223 11 | 411 96 | | 1,890 49 |
| Repairs—Extraordinary | | | | | | | | | | | | | |
| Totals | 1,052 83 | 1,962 61 | 1,723 35 | 1,308 47 | 1,727 85 | 675 31 | 914 43 | 1,965 47 | 1,737 93 | 554 43 | 418 06 | | 14,040 74 |

## Expenditure Incurred Working at:

| —— | Summerside Queen W. | Miminigash Breakwater. | Tignish Breakwater. | — | — | — | — | Totals. |
|---|---|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| Wages—Dredge | 477 04 | 1,759 46 | 1,650 57 | | | | | 3,887 07 |
| " Departmental tugs | | | | | | | | |
| Provisions—Dredge | 125 08 | 461 38 | 429 04 | | | | | 1,015 50 |
| " Departmental tugs | | | | | | | | |
| Fuel—Dredge | 91 19 | 364 03 | 294 10 | | | | | 749 32 |
| " Departmental tugs | | | | | | | | |
| Stores and equipment Dredge | 95 40 | 351 90 | 322 77 | | | | | 770 07 |
| " Departmental tugs | | | | | | | | |
| Contingencies Dredge | 19 08 | 70 38 | 80 03 | | | | | 169 49 |
| " Departmental tugs | | | | | | | | |
| Water—Dredge | 8 48 | 34 28 | 30 04 | | | | | 72 80 |
| " Departmental tugs | | | | | | | | |
| Pilotage and towage Dredge | | 15 00 | 15 00 | | | | | 30 00 |
| " Departmental tugs | | | | | | | | |

| | | |

# NEW BRUNSWICK.

## Departmental Dredge 'No. 1,' and Plant in Attendance.

| | April. | May. | June. | July. | August. | September. | October. | November. | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c.yds | 6,770 | 21,135 | 30,394 | 37,116 | 13,755 | ..... | 38,485 | 11,275 chan. 14,950 slip | 20,090 | ..... | ..... | ..... | 193,970 |
| Kind of material | Stones, clay gravel. | Stones, clay, soft mud, gravel. | Mud, gravel | Mud, gravel | Clay, stones, boulders. | ..... | Clay, gravel, soft mud. | Soft mud, gravel, boulders. | Mud, gravel. | ..... | ..... | ..... | ..... |
| Total possible dredging time | H. M. 190 00 | H. M. 270 00 | H. M. 250 00 | H. M. 270 00 | H. M. 270 00 | H. M. 250 00 | H. M. 270 00 | H. M. 260 00 | H. M. 250 00 | ..... | ..... | ..... | H. M. 2,280 00 |
| Hours actually dredging | 46 52 | 42 04 | 51 05 | 93 11 | 88 55 | ..... | 81 30 | 27 35 35 50 | 33 00 | ..... | ..... | ..... | 500 00 |
| Per hour, actually dredging, c. yds. | 144·47 | 495·42 | 586·41 | 398·32 | 154·70 | ..... | 472·21 | 40·88 41·71 | 608·79 | ..... | ..... | ..... | 387·94 |

## Details of Expenditure.

| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | 1,124 40 | 1,274 99 | 1,335 71 | 1,382 94 | 1,320 56 | 1,412 27 | 1,658 37 | 1,566 32 | 1,626 53 | 358 75 | ..... | ..... | 13,060 81 |
| Provisions | 333 23 | 387 00 | 395 60 | 423 00 | 423 80 | 357 00 | 418 25 | 398 50 | 410 00 | ..... | ..... | ..... | 3,546 38 |
| Fuel | 124 46 | 495 00 | 228 84 | 236 63 | 408 97 | 181 59 | 11 00 | 590 78 | 933 87 | 38 00 | ..... | ..... | 3,249 14 |
| Stores and equipment | 304 18 | 224 68 | 91 66 | 90 91 | 385 18 | 917 74 | 777 90 | 98 21 | 46 45 | 38 38 | ..... | ..... | 3,475 29 |
| Contingencies | ..... | 14 81 | 12 15 | 4 88 | 30 49 | 17 72 | 12 90 | 1 81 | 22 80 | ..... | 6 21 | ..... | 123 77 |
| Water | ..... | 42 63 | ..... | ..... | 82 63 | 18 50 | ..... | 82 88 | ..... | 82 03 | ..... | ..... | 308 67 |
| Pilotage and towage | 105 00 | 135 00 | 125 00 | 135 00 | 135 00 | 20 00 | ..... | 130 00 | ..... | ..... | ..... | ..... | 785 00 |
| Wharfage | 251 25 | 321 50 | 262 50 | 271 25 | 262 50 | 66 00 | 306 25 | 262 50 | 271 25 | 271 25 | ..... | ..... | 2,546 25 |
| Rental hired tugs | 625 00 | ..... | 858 75 | 937 50 | 937 50 | ..... | 881 25 | 332 01 | 990 00 | 10 00 | 8 00 | ..... | 5,490 01 |
| Repairs (inc. all items charged to D.V. rep'rs) | 788 71 | 1,120 05 | 174 88 | 151 83 | 547 89 | 1,317 06 | 1,273 35 | 677 00 | 520 82 | 2,713 57 | 2,908 21 | 1,484 18 | 13,677 55 |
| Repairs—Extraordinary | ..... | 4,041 87 | ..... | ..... | 278 08 | ..... | ..... | ..... | ..... | 27 00 | ..... | ..... | 4,346 95 |
| Totals | 3,656 23 | 8,057 53 | 3,485 09 | 3,633 91 | 4,812 60 | 4,307 88 | 5,339 27 | 4,140 01 | 5,231 72 | 3,538 98 | 2,922 42 | 1,484 18 | 50,609 82 |

## Expenditure Incurred Working At:

| | Channel. | Winter Port. | — | — | — | — | — | Totals. |
|---|---|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| Wages—Dredge | 12,538 70 | 522 11 | ..... | ..... | ..... | ..... | ..... | 13,060 81 |
| " Departmental tugs | 9,239 58 | 312 38 | ..... | ..... | ..... | ..... | ..... | 9,551 96 |
| Provisions—Dredge | 3,413 54 | 132 84 | ..... | ..... | ..... | ..... | ..... | 3,546 38 |
| " Departmental tugs | 3,018 43 | 94 00 | ..... | ..... | ..... | ..... | ..... | 3,112 43 |
| Fuel—Dredge | 3,052 21 | 196 93 | ..... | ..... | ..... | ..... | ..... | 3,249 14 |
| " Departmental tugs | 3,244 43 | 137 35 | ..... | ..... | ..... | ..... | ..... | 3,381 78 |
| Stores and equipment—Dredge | 3,442 56 | 32 73 | ..... | ..... | ..... | ..... | ..... | 3,475 29 |
| " Departmental tugs | 2,431 53 | 50 35 | ..... | ..... | ..... | ..... | ..... | 2,481 88 |
| Contingencies—Dredge | 123 16 | 61 | ..... | ..... | ..... | ..... | ..... | 123 77 |
| " Departmental tugs | 64 32 | ..... | ..... | ..... | ..... | ..... | ..... | 64 32 |
| Water—Dredge | 281 04 | 27 63 | ..... | ..... | ..... | ..... | ..... | 308 67 |
| " Departmental tugs | 11 34 | ..... | ..... | ..... | ..... | ..... | ..... | 11 34 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Pilotage and towage—Dredge | 741 66 | 43 34 | | | | | | 785 00 |
| " Departmental tugs | | | | | | | | |
| Wharfage—Dredge | 2,458 75 | 87 50 | | | | | | 2,546 25 |
| " Departmental tugs | 134 16 | 8 34 | | | | | | 142 50 |
| Repairs—Dredge | 11,188 09 | 2,489 46 | | | | | | 13,677 55 |
| " Departmental tugs | 4,130 14 | 1,197 73 | | | | | | 5,327 87 |
| Repairs, extraordinary—Dredge | 4,346 95 | | | | | | | 4,346 95 |
| " Departmental tugs | 927 65 | | | | | | | 927 65 |
| Rental of hired tugs | 5,379 29 | 110 72 | | | | | | 5,490 01 |
| Total expenditure—Dredge | 46,965 95 | 3,643 87 | | | | | | 50,609 82 |
| Total expenditure—Departmental tugs | 23,201 58 | 1,800 15 | | | | | | 25,001 73 |
| Total expenditure—Hired tugs | | | | | | | | |
| Total—Complete expenditure | 70,167 53 | 5,444 02 | | | | | | 75,611 55 |
| Cubic yards removed | 179,020 | 14,950 | | | | | | 193,970 |
| Cost per cu. yd. (calculated from total expenditure) | $·3919 | $·3641 | | | | | | $·3898 |
| Cost per hour actually dredging | $151·221 | $151·221 | | | | | | $151·223 |
| Kind of material | Sand, stones, clay, gravel | Soft mud, clay | | | | | | |
| Work commenced | April 9 | Nov. 13 | | | | | | |
| Work completed | Dec. 30 | Nov. 23 | | | | | | |

## DISTRIBUTION OF TIME IN HOURS.

| | H. | M. | % of total. | H. | M. | % of total. | H. | M. | % of total. | H. | M. | % of total. | H. | M. | % of total. | H. | M. | % of total | H. | M. | % of total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost by storms and weather | 274 | 10 | 12·63 | | | | | | | | | | | | | | | | 274 | 10 | 12·02 |
| " repairs | 745 | 05 | 34·39 | 1 | 50 | 1·19 | | | | | | | | | | | | | 746 | 55 | 32·76 |
| " coaling | 67 | 20 | 3·09 | 6 | 00 | 5·55 | | | | | | | | | | | | | 73 | 20 | 3·22 |
| " watering | | | | | | | | | | | | | | | | | | | | | |
| " tide and current | 132 | 25 | 6·09 | 12 | 00 | 11·01 | | | | | | | | | | | | | 144 | 25 | 6·33 |
| " cleaning plant | | | | | | | | | | | | | | | | | | | | | |
| " cleaning boilers | 10 | 00 | ·46 | | | | | | | | | | | | | | | | 10 | 00 | 0·43 |
| " inspecting boilers | 10 | 00 | 0·46 | | | | | | | | | | | | | | | | 10 | 00 | 0·43 |
| " holidays | 60 | 00 | 2·76 | | | | | | | | | | | | | | | | 60 | 00 | 2·64 |
| " waiting on scows or tug | 11 | 17 | 0·52 | 5 | 20 | 4·95 | | | | | | | | | | | | | 16 | 37 | 0·73 |
| " waiting orders | | | | | | | | | | | | | | | | | | | | | |
| " towing and preparing for work | | | | 25 | 00 | 22·83 | | | | | | | | | | | | | 25 | 00 | 1·09 |
| " moving dredge and changing cut | 130 | 48 | 6·02 | 23 | 30 | 21·46 | | | | | | | | | | | | | 154 | 18 | 6·77 |
| " short of coal or supplies | | | | | | | | | | | | | | | | | | | | | |
| " fog | 89 | 00 | 4·11 | | | | | | | | | | | | | | | | 89 | 00 | 3·91 |
| " miscellaneous | 175 | 55 | 8·09 | | 20 | 0·28 | | | | | | | | | | | | | 176 | 15 | 7·74 |
| Total lost time | 1706 | 00 | 78·62 | 74 | 00 | 67·27 | | | | | | | | | | | | | 1780 | 00 | 78·07 |
| Time actually dredging | 464 | 00 | 21·38 | 36 | 00 | 32·73 | | | | | | | | | | | | | 500 | 00 | 21·93 |
| Possible dredging time | 2170 | 00 | 100·00 | 110 | 00 | 100·00 | | | | | | | | | | | | | 2280 | 00 | 100·00 |

*Names of Departmental Tugs included in expenditure, dates between which employed, and localities.*—Tugs *Helena* and *Courtenay* employed from Apl. 9 to Dec. 30, 1912, St. John Harbor in main channel and Winter Port Berths 3 and 4. Tug *Canso* attended Dredge and Stonelifter, Apl. 22 to May 23 in main channel. St. John.

*Names of Rented Tugs included in expenditure, dates between which employed, and localities.*—Tug *Wolsely*, employed from Apl. 6 to Apl. 18, St. John Channel. Tug *Nereid* from May 25 to Aug. 31, and from Oct. 3 to Dec. 30, St. John channel and Winter Port Berths 3 and 4.

*Date Dredge put in Commission.*—9th April, 1912. *Dredge laid up for winter at* St. John, N.B., Dec. 30, 1912.

*Remarks.*—Much time lost Apr. 23 to May 15, due to breaking gear in heavy dredging and extensive boiler repairs being necessary Boiler repairs also delayed dredge week June 10 to 17. Dredge laid up Sept. 2 to Oct. 2 to instal new set of buckets. Dredge out of commission Dec. 30, after losing buckets in harbour off Partridge island. Part of every day in this harbour is lost at high tide as dredge cannot operate to required depth, and as dredge generally cleaning and deepening existing channels, partial cuts cannot be made.

## NEW BRUNSWICK—*Continued.*

### Departmental Dredge 'No. 2,' and Plant in Attendance.

| — | April. | May. | June. | July. | August. | September | October. | November | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c.yds | | | 11,461 | 15,233 | 11,957 | 12,734 | 10,794 | | | | | | 62,179 |
| Kind of material | | | Sand, gravel and rock. | Heavy stone rock and sand. | Gravel, stone and hard-pan. | Sand and gravel. | Sand and logs. | | | | | | |
| | | | H. M. | H. M. | H. M. | H. M. | H. M. | | | | | | H. M. |
| Total possible dredging time | | | 220 00 | 270 00 | 270 00 | 250 00 | 170 00 | | | | | | 1180 00 |
| Hours actually dredging | | | 90 25 | 115 33 | 168 32 | 131 53 | 92 27 | | | | | | 98 50 |
| Per hour actually dredging.....c. yds | | | 126 76 | 131·82 | 70·95 | 96·57 | 116·75 | | | | | | 103 83 |

### DETAILS OF EXPENDITURE.

| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | | | 688 48 | 905 40 | 773 58 | 732 52 | 694 14 | 669 59 | 439 50 | | | | 4,903 21 |
| Provisions | 101 00 | | 208 00 | 210 00 | 223 00 | 227 00 | 225 00 | 206 00 | 84 00 | 20 00 | | | 1,504 00 |
| Fuel | 126 72 | 1,732 58 | 497 38 | 264 34 | | 321 83 | | | 422 25 | 96 58 | | | 3,461 68 |
| Stores and equipment | 43 51 | 140 75 | | | 374 81 | 214 90 | 48 18 | 31 31 | 228 04 | 60 | | | 1,082 10 |
| Contingencies | 6 14 | 14 54 | 17 39 | 27 20 | 12 50 | | 9 14 | 11 60 | 99 35 | 3 25 | | 20 00 | 221 11 |
| Water | | | 32 45 | | 9 20 | | 131 95 | | | | | | 173 60 |
| Pilotage and towage | | | | | | | | 40 00 | | | | | 40 00 |
| Wharfage | | | | | | | | | | | | | |
| Rental hired tugs | | 100 00 | 320 00 | 1,940 00 | 1,080 00 | 960 00 | 1,280 00 | 640 00 | 24 00 | | | 50 00 | 5,494 00 |
| Repairs (inc. all items charged to D.V rep'rs) | 1,149 59 | 747 23 | 493 70 | | 422 95 | 166 17 | 63 71 | 123 79 | 215 83 | 827 70 | 2,356 60 | 1,427 60 | 7,994 87 |
| Repairs—Extraordin'y. | | | | 3,315 69 | | | | | | 29 00 | 57 42 | | 3,402 11 |
| Totals | 1,426 96 | 2,735 10 | 2,257 40 | 5,762 63 | 2,896 04 | 2,622 42 | 2,452 12 | 1,722 29 | 1,512 97 | 977 13 | 2,414 02 | 1,497 60 | 28,276 68 |

### EXPENDITURE INCURRED WORKING AT:

| — | Champeau. | Government Wharf. | Shive's Wharf. | Canada Wharf. | Town Wharf. | — | — | Totals. |
|---|---|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | | | $ cts. |
| Wages—Dredge | 2,519 94 | 843 44 | 715 74 | 414 74 | 409 35 | | | 4,903 21 |
| " Departmental tugs | 2,149 94 | 830 58 | 577 04 | 370 44 | 333 27 | | | 4,261 27 |
| Provisions—Dredge | 640 70 | 377 67 | 219 43 | 135 40 | 130 80 | | | 1,504 00 |
| " Departmental tugs | 601 52 | 273 75 | 190 50 | 129 61 | 118 47 | | | 1,313 85 |
| Fuel—Dredge | 1,606 20 | 847 80 | 287 01 | 373 58 | 347 09 | | | 3,461 68 |
| " Departmental tugs | 858 84 | 369 84 | 185 63 | 157 38 | 141 40 | | | 1,713 09 |
| Stores and equipment—Dredge | 350 60 | 174 71 | 305 33 | 128 46 | 123 00 | | | 1,082 10 |
| " Departmental tugs | 346 62 | 166 29 | 168 88 | 96 59 | 89 20 | | | 867 58 |
| Contingencies—Dredge | 113 65 | 39 42 | 30 59 | 19 74 | 17 71 | | | 221 11 |
| " Departmental tugs | 79 92 | 34 27 | 24 28 | 10 37 | 8 73 | | | 157 57 |
| Water—Dredge | 98 40 | 29 41 | 19 39 | 14 21 | 12 19 | | | 173 60 |
| " Departmental tugs | 16 20 | 6 97 | 4 64 | 3 24 | 2 00 | | | 33 05 |
| Pilotage and towage—Dredge | 18 00 | 8 00 | 5 60 | 4 40 | 4 00 | | | 40 00 |
| " Departmental tugs | 4 40 | 20 30 | 12 80 | 9 10 | 7 44 | | | 104 04 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Wharfage—Dredge | | | | | | | | |
| " Departmental tugs | | | | | | | | |
| Repairs—Dredge | 3,452 30 | 1,279 21 | 519 88 | 1,319 68 | 1,423 80 | | | 7,994 87 |
| " Departmental tugs | 321 63 | 137 86 | 111 44 | 86 28 | 76 35 | | | 733 56 |
| Repairs, extraordinary—Dredge | 1,556 38 | 662 86 | 461 42 | 374 65 | 346 80 | | | 3,402 11 |
| " " Departmental tugs | | | | | | | | |
| Rental of hired tugs | 2,812 88 | 78 06 | 930 60 | 490 79 | 476 67 | | | 5,494 00 |
| Total expenditure—Dredge | 13,169 05 | 5,045 58 | 3,494 99 | 3,275 65 | 3,291 41 | | | 28,276 68 |
| Total expenditure—Departmental tugs | 4,429 07 | 1,839 86 | 1,275 21 | 863 01 | 776 86 | | | 9,184 01 |
| Total expenditure—Hired tugs | | | | | | | | |
| Total complete expenditure | $17,598 12 | $6,885 44 | $4,770 20 | $4,138 66 | $4,068 27 | | | 37,460 69 |
| Cubic yards removed | 30,657 | 14,538 | 4,430 | 4,848 | 7,706 | | | 62,179 |
| Cost per cu. yd. (calculated from total expenditure ). | $0·5740 | $0·4736 | $1·076 | $0·8537 | $·05280 | | | $0·6024 |
| Cost per hour actual dredging | $62·56 | $62·55 | $62·56 | $62·56 | $62·56 | | | $62·56 |
| Kind of material | Stone and gravel. | Rock and gravel. | Hard-pan .. | Logs & stone | Logs, rock, sand and sticks. | | | |
| Work commenced. | June 5th–12th. July 2–Aug. 10 | June 15th-28th | August 14th... | August 28th... | Sept. 24th. . | | | |
| Work completed | Oct. 8th–19th. | Sept. 10–20. | August 27th... | Sept. 7th. . . . | October 3rd.. | | | |

## DISTRIBUTION OF TIME IN HOURS.

| | H M | % of total | H M | % of total | H M | % of total. | H M | % of total. | H M | % of total. | H M | % of total. | H M | % of total. | H M | % of total. | H M | % of total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost by storms and weather | 5 20 | 1·01 | 2 00 | 0·87 | 1 20 | 0·80 | 1 10 | 0·85 | 1 10 | 0·93 | | | | | 1 00 | 0·93 |
| " repairs | 60 30 | 11·38 | 23 00 | 10·00 | 16 15 | 10·24 | 13 00 | 9·48 | 12 40 | 10·35 | | | | | 125 25 | 10·63 |
| " coaling | 38 40 | 7·27 | 14 40 | 6·40 | 14 40 | 9·24 | 6 30 | 4·71 | 5 30 | 4·57 | | | | | 80 00 | 6·78 |
| " watering | | | | | | | | | | | | | | | | |
| " tide and current | 38 15 | 7·20 | 14 00 | 6·10 | 9 45 | 6·15 | 7 00 | 5·08 | 6·48 | 5·55 | | | | | 75 48 | 6·42 |
| " cleaning plant | | | | | | | | | | | | | | | | |
| " cleaning boilers | | | | | | | | | | | | | | | | |
| " inspecting boilers | | | | | | | | | | | | | | | | |
| " holidays | | | 10 00 | 4·35 | | | 10 00 | 7·25 | | | | | | | 20 00 | 1·69 |
| " waiting on scows or tug | 51 40 | 9·73 | 19 40 | 8·57 | 14 09 | 8·86 | 15 27 | 11·20 | 11 00 | 9·00 | | | | | 111 47 | 9·48 |
| " waiting orders | | | | | | | | | | | | | | | | |
| " towing and preparing for work | 20 30 | 3·76 | 7 15 | 3·17 | 5 45 | 3·54 | 5 00 | 3·62 | 4 00 | 3·25 | | | | | 42 30 | 3·60 |
| " moving dredge and changing cut | 7 48 | 1·50 | 18 00 | 7·89 | 13 00 | 8·32 | 7 40 | 5·36 | 10 00 | 8·16 | | | | | 56 28 | 4·79 |
| " short of coal or supplies | | | | | | | | | | | | | | | | |
| " miscellaneous | 28 00 | 5·28 | 10 40 | 4·65 | 7 32 | 4·75 | 6 00 | 4·30 | 6 00 | 4·90 | | | | | 58·12 | 4·93 |
| Total lost time | 250 43 | 47·13 | 119 15 | 52·00 | 82 17 | 51·90 | 71 47 | 51·85 | 57 08 | 46·71 | | | | | 581 10 | 49·25 |
| Time actually dredging | 281 18 | 52·87 | 110 05 | 48·00 | 76 15 | 48·10 | 66 10 | 48·15 | 65 02 | 53·29 | | | | | 598 50 | 50·75 |
| Possible dredging time | 532 01 | 100·00 | 229 20 | 100·00 | 158 32 | 100·00 | 137 57 | 100·00 | 122 10 | 100·00 | | | | | 1180 00 | 100·00 |

*Names of Departmental Tugs included in expenditure, dates between which employed, and localities:*—Tug *Canso*, from May 23 to October 19, Champeau wharf, Government wharf, Shives' wharf, Canada wharf, and Town wharf.

*Names of rented tugs included in expenditure, dates between which employed, and localities:*—Tug *Wm. Aitken*, from June 5 to October 19, Champeau wharf, Government wharf, Shives' wharf, Canada wharf, and Town wharf.

*Date Dredge put in commission*—5th June. *Dredge laid up for winter at* Pictou, N.S., 19th October.

*Remarks.*—Ladder thrust bearing broke November 13th, and dredge out of commission.

## NEW BRUNSWICK.—*Concluded.*

### Departmental Dredge 'No. 3,' and Plant in Attendance.

| —— | April. | May. | June. | July. | August. | September. | October. | November | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c.yds | | 3,250 | 20,808 | 23,634 | 23,562 | 20,542 | 17,252 | 9,149 | | | | | 118,197 |
| Kind of material | | Sand, gravel | Sand, mud | Clay, sand | Clay, sand | Clay, sand | Clay, sand | Clay, sand | | | | | |
| Total possible dredging time | H. M. | H. M. 90 00 | H. M. 250 00 | H. M. 270 00 | H. M. 270 00 | H. M. 250 00 | H. M. 270 00 | H. M. 220 00 | | | | | H. M. 1,620 00 |
| Hours actually dredging | | 20 00 | 111 30 | 104 25 | 89 15 | 66 10 | 65 05 | 34 20 | | | | | 490 45 |
| Per hour, actually dredging. ..c. yds. | | 162·5 | 186·62 | 226·36 | 264·0 | 310·48 | 265·09 | 266·50 | | | | | 240·84 |

### DETAILS OF EXPENDITURE.

| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | | 675 97 | 705 00 | 705 00 | 701 66 | 705 00 | 694 74 | 705 00 | 524 66 | | | | 5,417 03 |
| Provisions | | 220 50 | 237 50 | 235 50 | 230 50 | 225 00 | 227 00 | 225 00 | 145 50 | 90 00 | | | 1,836 50 |
| Fuel | 10 00 | 69 13 | 557 89 | 276 86 | 371 77 | 825 13 | 971 75 | 27 01 | 48 02 | 77 38 | | | 3,234 94 |
| Stores and equipment | 139 91 | 284 74 | 111 32 | 86 72 | 297 10 | 67 45 | 39 59 | | | | | | 1,026 83 |
| Contingencies | 73 25 | 12 20 | 35 62 | 21 30 | | 1 57 | | 2 50 | | 21 93 | | 12 29 | 180 66 |
| Water | 6 00 | 36 00 | 35 50 | 25 00 | 33 75 | | | 17 00 | | | | | 153 25 |
| Pilotage and towage | | 43 70 | 60 00 | 12 00 | | | | | | | | | 115 70 |
| Wharfage | | | | | | | | | | | | | |
| Rental hired tugs | | | | | | | | | | | | | |
| Repairs (inc. all items charged to D.V. rep'rs) | 14,436 16 | 112 80 | 48 61 | | 146 66 | | | | 32 94 | 866 16 | 851 83 | 645 24 | 17,140 40 |
| Repairs—Extraordinary | | 400 00 | | | | | | | | | | | 400 00 |
| Totals | 14,665 32 | 1,855 04 | 1,791 44 | 1,362 38 | 1,781 44 | 1,824 15 | 1,933 08 | 976 51 | 751 12 | 1,055 47 | 851 83 | 657 53 | 29,505 31 |

### EXPENDITURE INCURRED WORKING AT:

| —— | Bathurst, N.B | — | — | — | — | — | — | Totals. |
|---|---|---|---|---|---|---|---|---|
| | $ ct. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| Wages—Dredge | 5,417 03 | | | | | | | 5,417 03 |
| " Departmental tugs | | | | | | | | |
| Provisions Dredge | 1,836 50 | | | | | | | 1,836 50 |
| " Departmental tugs | | | | | | | | |
| Fuel—Dredge | 3,234 94 | | | | | | | 3,234 94 |
| " Departmental tugs | | | | | | | | |
| Stores and equipment—Dredge | 1,026 83 | | | | | | | 1,026 83 |
| " Departmental tugs | | | | | | | | |
| Contingencies—Dredge | 180 66 | | | | | | | 180 66 |
| " Departmental tugs | | | | | | | | |
| Water—Dredge | 153 25 | | | | | | | 153 25 |
| " Departmental tugs | | | | | | | | |
| Pilotage and towage—Dredge | 115 70 | | | | | | | 115 70 |
| " Departmental tugs | | | | | | | | |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wharfage—Dredge | | | | | | | | | | | | | | | | | | |
| " Departmental tugs | | | | | | | | | | | | | | | | | | |
| Repairs—Dredge | 17,140 | 40 | | | | | | | | | | | | | | | 17,140 | 40 |
| " Departmental tugs | | | | | | | | | | | | | | | | | | |
| Repairs, extraordinary—Dredge | 400 | 00 | | | | | | | | | | | | | | | 400 | 00 |
| " Departmental tugs | | | | | | | | | | | | | | | | | | |
| Rental of hired tugs | | | | | | | | | | | | | | | | | | |
| Total expenditure—Dredge | 29,505 | 31 | | | | | | | | | | | | | | | 29,505 | 31 |
| Total expenditure—Departmental tugs | | | | | | | | | | | | | | | | | | |
| Total expenditure—Hired tugs | | | | | | | | | | | | | | | | | | |
| Total—Complete expenditure | 29,505 | 31 | | | | | | | | | | | | | | | 29,505 | 31 |
| Cubic yards removed | 118,197 | | | | | | | | | | | | | | | | 118,197 | |
| Cost per cu. yd. (calculated from total expenditure) | $·2496 | | | | | | | | | | | | | | | | $·2496 | |
| Cost per hour actually dredging | $60·123 | | | | | | | | | | | | | | | | $60·123 | |
| Kind of material | Sand, gravel, clay | | | | | | | | | | | | | | | | | |
| Work commenced | 23rd May | | | | | | | | | | | | | | | | | |
| Work completed | 26th Nov | | | | | | | | | | | | | | | | | |

## DISTRIBUTION OF TIME IN HOURS.

| | H. M. | % of total. | H. M. | % of total. | H. M. | % of total. | H. M. | % of total. | H. M. | % of total. | H. M. | % of total. | H. M. | % of total. | H. M. | % of total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost by storms and weather | 492 00 | 30·37 | | | | | | | | | | | | | 492 00 | 30·37 |
| " repairs | 83 30 | 5·16 | | | | | | | | | | | | | 83 30 | 5·16 |
| " coaling | 117 35 | 7·26 | | | | | | | | | | | | | 117 35 | 7·26 |
| " watering | 18 20 | 1·13 | | | | | | | | | | | | | 18 20 | 1·13 |
| " tide and current | 39 30 | 2·44 | | | | | | | | | | | | | 39 30 | 2·44 |
| " cleaning plant | | | | | | | | | | | | | | | | |
| " cleaning boilers | | | | | | | | | | | | | | | | |
| " inspecting boilers | | | | | | | | | | | | | | | | |
| " holidays | 50 00 | 3·09 | | | | | | | | | | | | | 50 00 | 3·09 |
| " waiting on scows or tug | | | | | | | | | | | | | | | | |
| " waiting orders | | | | | | | | | | | | | | | | |
| " towing and preparing for work | 55 50 | 3·45 | | | | | | | | | | | | | 55 50 | 3·45 |
| " moving dredge and changing cut | 202 25 | 12·49 | | | | | | | | | | | | | 202 25 | 12·49 |
| " short of coal or supplies | | | | | | | | | | | | | | | | |
| " fog | 28 55 | 1·79 | | | | | | | | | | | | | 28 55 | 1·79 |
| " miscellaneous | 37 55 | 2·34 | | | | | | | | | | | | | 37 55 | 2·34 |
| Total lost time | 1126 00 | 69·52 | | | | | | | | | | | | | 1126 00 | 69·52 |
| Time actually dredging | 494 00 | 30·48 | | | | | | | | | | | | | 494 00 | 30·48 |
| Possible dredging time | 1620 00 | 100 00 | | | | | | | | | | | | | 1620 00 | 100 00 |

*Names of Departmental Tugs included in expenditure, dates between which employed, and localities.*—None.
*Names of Rented Tugs included in expenditure, dates between which employed, and localities.*—None.
*Date Dredge put in Commission.*—May 23. *Dredge laid up for winter at* Bathurst, N.B., Nov. 26th, 1912.
*Remarks.*—This dredge working in exposed place at end of season, considerable time was lost due to bad weather

# ONTARIO AND QUEBEC.

## Departmental Dredge 'Challenge,' and Plant in Attendance.

| | April. | May. | June. | July. | August. | September | October. | November. | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c.yds | | 912 | 3,957 | 5,229 | 5,086 | 7,555 | 8,979 | 2,446 | | | | | 34,164 |
| Kind of material | | Clay | Clay | Clay, hard-pan, boulders. | Sand. | Sand, clay | Sand, clay | Sand | | | | | |
| Total possible dredging time | H.M. | H. M. | H. M. | H.M. | H. M. | H. M. | H. M. | H. M. | H. M. | H. M. | H. M. | H. M. | H. M. 1,510 00 |
| Hours actually dredging | | 29 00 | 165 00 | 206 30 | 123 00 | 175 00 | 194 00 | 63 30 | | | | | 966 00 |
| Per hour, actually dredging.....c. yds | | 23 00 | 25 | 25 | 41 | 43 | 46 | 36 | | | | | 35 |

## DETAILS OF EXPENDITURE.

| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | 393 34 | 510 00 | 564 83 | 510 00 | 499 84 | 510 00 | 508 87 | 510 00 | 123 08 | 100 00 | 50 00 | 1,017 24 | 5,297 20 |
| Provisions | 95 48 | 165 00 | 161 70 | 185 80 | 247 67 | 165 00 | 164 51 | 167 20 | 9 68 | | | 92 44 | 1,454 48 |
| Fuel | 287 61 | 8 00 | | | 428 71 | 960 63 | | | 497 02 | 51 87 | | 321 67 | 2,555 51 |
| Stores and equipment | 72 16 | 32 60 | 14 17 | 25 25 | 2 00 | 73 | 33 02 | 14 63 | | | | 446 62 | 641 18 |
| Contingencies | 9 35 | 12 40 | 30 17 | 8 20 | 30 40 | 3 00 | 3 00 | 16 50 | 8 05 | 13 80 | | 171 75 | 306 62 |
| Water | | | | | | | | | | | | | |
| Pilotage and towage | | | 10 00 | | | | | | | | | | 10 00 |
| Wharfage | | | | | | | | | | | | | |
| Rental hired tugs | | | | | | | | | | | | | |
| Repairs (inc. all items charged to D.V rep'rs) | 721 64 | 172 76 | 89 50 | 141 14 | 39 47 | | | 158 06 | 182 52 | 21 30 | 184 69 | 199 42 | 1,910 50 |
| Repairs—Extraordin'y | | | | | | | | | | | | | |
| Totals | 1,579 58 | 900 76 | 870 37 | 870 39 | 1,248 09 | 1,639 36 | 709 40 | 866 39 | 820 35 | 186 97 | 234 69 | 2,249 14 | 12,175 49 |

## EXPENDITURE INCURRED WORKING AT:

| —— | Summerstown Ont. | Three Rivers, Que. | —— | —— | —— | —— | —— | Totals. |
|---|---|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | $ cts. | | | | | $ cts. |
| Wages—Dredge and departmental tugs | 2,251 04 | 3,046 16 | | | | | | 5,297 20 |
| ProvisionsDredges and departmental tugs | 618 08 | 836 40 | | | | | | 1,454 48 |
| Fuel—Dredge and departmental tugs | 1,085 95 | 1,469 56 | | | | | | 2,555 51 |
| Stores and equipment—Dredge and departmental tugs | 272 47 | 368 71 | | | | | | 641 18 |
| Contingencies—Dredge and departmental tugs | 130 30 | 176 32 | | | | | | 306 62 |
| Water—Dredge and departmental tugs | | | | | | | | |
| Pilotage and towage—Dredge and departmental tugs | 10 00 | | | | | | | 10 00 |
| Wharfage—Dredge and departmental tugs | | | | | | | | |
| Repairs—Dredge and departmental tugs | 811 86 | 1,098 64 | | | | | | 1,910 50 |
| Repairs, extraordinary—Dredge and departmental tugs | | | | | | | | |
| Rental of hired tugs | | | | | | | | |

| | | | |
|---|---|---|---|
| Total expenditure—Dredge and departmental tugs | 5,179 70 | 6,995 79 | 12,175 49 |
| Total expenditure—Hired tugs | | | |
| Total—complete expenditure | $5,179 70 | 6,995 79 | 12,175 49 |
| Cubic yards removed | 100,98 | 24,066 | 34,164 |
| Cost per cu. yd. (calculated from total expenditure) | 51·29 cts. | 29·06 cts. | 35·63 cts. |
| Cost per hour, actually dredging | $12·61 | $12·59 | ?12·60 |
| Kind of material | Clay, hard-pan and boulders. | Sand & clay | |
| Work commenced | May 21st. | August 9th. | |
| Work completed | July 31st | November 12. | |

DISTRIBUTION OF TIME IN HOURS.

| | H | M | % of total. | H | M | % of total. | | % of total. | | % of total. | | % of total. | | % of total. | | % of total. | total | | % of total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost by storms and weather | 46 | 00 | 7·4 | 67 | 00 | 7·5 | | | | | | | | | | | 113 | 00 | 7·5 |
| " repairs | 36 | 00 | 5·8 | 111 | 30 | 12·5 | | | | | | | | | | | 147 | 30 | 9·5 |
| " coaling | 15 | 30 | 2·5 | 23 | 00 | 2·6 | | | | | | | | | | | 38 | 30 | 2·5 |
| " watering | | | | | | | | | | | | | | | | | | | |
| " tide and current | | | | | | | | | | | | | | | | | | | |
| " cleaning plant | 7 | 00 | 1·1 | 18 | 00 | 2·0 | | | | | | | | | | | 25 | 00 | 1·7 |
| " cleaning boilers | 10 | 00 | 1·6 | | | | | | | | | | | | | | 10 | 00 | 0·7 |
| " inspecting boilers | | | | 5 | 00 | 0·6 | | | | | | | | | | | 5 | 00 | 0·3 |
| " holidays | 30 | 00 | 4·8 | 30 | 00 | 3·4 | | | | | | | | | | | 60 | 00 | 3·9 |
| " waiting on scows or tug | | | | | | | | | | | | | | | | | | | |
| " waiting orders | | | | | | | | | | | | | | | | | | | |
| " towing and preparing for work | | | | 70 | 00 | 7·8 | | | | | | | | | | | 70 | 00 | 4·6 |
| " moving dredge and changing cut | 40 | 00 | 6·5 | 10 | | 1·1 | | | | | | | | | | | 50 | 00 | 3·3 |
| " short of coal or supplies | 13 | 00 | 2·1 | | | | | | | | | | | | | | 13 | 00 | 0·9 |
| " miscellaneous | 12 | 00 | 1·9 | | | | | | | | | | | | | | 12 | 00 | 0·8 |
| Total lost time | 209 | 30 | 33·7 | 334 | 30 | 37·5 | | | | | | | | | | | 554 | 00 | 36 |
| Time actually dredging | 410 | 30 | 66·3 | 555 | 30 | 62·5 | | | | | | | | | | | 966 | 00 | 64 |
| Possible dredging time | 620 | 00 | 100·00 | 890 | 00 | 100 | | | | | | | | | | | 1,510 | 00 | 100 |

*Names of Departmental Tugs included in expenditure, dates between which employed, and localities*:—Tug *Delisle*, all season.
*Names of Rented Tugs included in expenditure, dates between which employed, and localities*:—None.
*Date Dredge put in commission*—May 3, 1912. *Dredge, laid up for winter at* Ottawa, Ont, December 6th, 1912.

## ONTARIO AND QUEBEC—*Continued.*

### Departmental Dredge 'Deschenes,' and Plant in Attendance.

| | April. | May. | June. | July. | August. | September. | October. | November | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c yds | | 945 | 2,962 | 5,161 | 4,490 | 4,315 | 4,172 | 2,230 | | | | | 24,275 |
| Kind of material | | Stones, timber, sand. | Sand, clay.. | Sand, clay.. | Clay. | Clay, sand. | Sand, clay, stones. | Sand, Mud. | | | | | |
| Total possible dredging time | | H. M. 130 00 | H. M. 250 00 | H. M. 270 00 | H. M. 270 00 | H. M. 250 00 | H. M. 270 00 | H. M. 180 00 | | | | | H. M. 1,620 00 |
| Hours actually dredging | | 78 30 | 112 00 | 184 00 | 162 00 | 174 30 | 151 30 | 86 00 | | | | | 948 30 |
| Per hour, actually dredging. . c. yds. | | 12 | 26 | 28 | 27 | 27 | 27 | 26 | | | | | 25 |

### Details of Expenditure.

| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | 385 33 | 483 39 | 449 50 | 500 00 | 490 00 | 549 45 | 553 78 | 490 41 | 227 10 | 100 00 | | 619 50 | 4,848 46 |
| Provisions | 50 01 | 163 85 | 165 40 | 165 00 | 157 50 | 155 80 | 160 16 | 161 68 | 47 88 | | | 40 65 | 1,267 93 |
| Fuel | | | | 16 16 | | 147 84 | 76 93 | 6 02 | 292 56 | 841 63 | | 28 30 | 1,409 44 |
| Stores and equipment | 35 30 | 48 33 | 12 80 | 6 96 | 39 07 | 75 | 73 14 | 1 30 | 58 56 | | | 294 71 | 570 92 |
| Contingencies | 9 05 | | 3 75 | | 3 00 | 38 50 | 7 25 | 12 00 | 8 00 | 6 64 | | 132 92 | 220 91 |
| Water | | | | | | | | | | | | | |
| Pilotage and towage | | | | | | | | | | | | | |
| Wharfage | | | | | | | | | | | | | |
| Rental hired tugs | | | | | | | | | | | | | |
| Repairs (inc. all items charged to D.V. rep'rs) | 505 14 | 390 52 | 141 11 | 214 52 | 95 27 | 247 89 | 319 47 | 569 94 | 186 59 | 431 22 | 287 98 | 126 24 | 3,515 89 |
| Repairs—Extraordinary | | | | | | | | | | | | | |
| Totals | 984 83 | 1,086 09 | 772 56 | 902 64 | 784 84 | 1,140 23 | 1,190 73 | 1,241 35 | 820 69 | 1,379 29 | 287 98 | 1,242 32 | 11,833 55 |

### Expenditure Incurred Working at:

| | Britannia, Ont. | Aylmer, Que. | — | — | — | — | — | Totals. |
|---|---|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| Wages—Dredge and departmental tugs | 319 49 | 4,528 97 | | | | | | 4,848 46 |
| Provisions—Dredge and departmental tugs | 88 55 | 1,184 38 | | | | | | 1,267 93 |
| Fuel—Dredge and departmental tugs | 92 87 | 1,316 57 | | | | | | 1,409 44 |
| Stores and equipment—Dredge and departmental tugs | 37 62 | 533 30 | | | | | | 570 92 |
| Contingencies—Dredge and departmental tugs | 14 56 | 206 35 | | | | | | 220 91 |
| Water—Dredge and departmental tugs | | | | | | | | |
| Pilotage and towage—Dredge and departmental tugs | | | | | | | | |
| Wharfage—Dredge and departmental tugs | | | | | | | | |
| Repairs—Dredge and departmental tugs | 231 67 | 3,284 22 | | | | | | 3,515 89 |

| | | |

## ONTARIO AND QUEBEC—*Continued.*

### Departmental Dredge 'Industry,' and Plant in Attendance.

| | April. | May. | June. | July. | August. | September. | October. | November. | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c.yds | | 29,478 | 59,368 | 24,526 | 78,192 | 26,821 | 37,949 | 29,860 | 5,069 | | | | 291,263 |
| Kind of material | Driftwood, silt, hardpan, gravel, sand. | Sunken trees, sand, clay gravel silt hard-pan. | Hard pan, sand, drift wood, quicksand clay. | Quicksand, clay. | Clay, sand, silt. | Sand, hard pan, clay, silt. | Clay, silt, hardpan, rock, boulders. | Clay, boulders, hard pan, rock. | | | | | |
| Total possible dredging time | | H. M. 220 00 | H. M. 250 00 | H. M. 270 00 | H. M. 270 00 | H. M. 250 00 | H. M. 270 00 | H. M. 260 00 | H. M. 60 00 | | | | H. M. 1,850 00 |
| Hours actually dredging | | 108 50 | 179 10 | 89 00 | 182 45 | 106 15 | 122 30 | 122 30 | 40 00 | | | | 951 00 |
| Per hour, actually dredging, c. yds | | 271 00 | 331 00 | 275 00 | 427 00 | 252 00 | 309 00 | 245 00 | 127 00 | | | | 306 00 |

### Details of Expenditure.

| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | 1,199 17 | 1,233 22 | 1,268 42 | 1,140 50 | 1,169 44 | 1,201 51 | 1,381 79 | 1,219 91 | 864 22 | 143 55 | 661 07 | 926 83 | 12,409 63 |
| Provisions | 403 27 | 352 75 | 349 94 | 342 25 | 341 37 | 335 10 | 366 65 | 345 00 | 236 13 | | 149 55 | 184 84 | 3,406 85 |
| Fuel | 15 00 | 749 09 | | 785 53 | 637 25 | 347 69 | 1,849 88 | 704 54 | 860 40 | 33 00 | | 288 03 | 6,270 41 |
| Stores and equipment | 601 14 | 121 85 | 727 26 | 104 50 | 55 16 | 61 91 | 38 00 | 186 83 | 7 51 | 16 34 | | 1,182 75 | 3,103 25 |
| Contingencies | 44 50 | 50 08 | 113 40 | 15 66 | 35 41 | 14 00 | 54 39 | 3 71 | 99 75 | 51 39 | 12 95 | 60 47 | 555 71 |
| Water | | | | | | | | | | | | | |
| Pilotage and towage | | | | | | 10 00 | | 13 00 | 25 00 | | | | 48 00 |
| Wharfage | | | | | | | | | | | | | |
| Rental hired tugs | | | | | 250 00 | | 288 00 | | | | | | 538 00 |
| Repairs (inc. all items charged to D.V. repairs | 1,248 39 | 1,982 71 | 253 53 | 195 31 | 184 96 | 215 84 | 677 69 | 3 00 | 593 42 | 502 35 | 731 14 | 863 65 | 7,426 99 |
| Repairs—Extraordin'y | | | | | | | | | | | | | |
| Totals | 3,511 47 | 4,489 70 | 2,712 55 | 2,583 75 | 2,673 59 | 2,186 05 | 4,656 40 | 2,475 99 | 2,661 43 | 746 63 | 1,554 71 | 3,506 57 | 33,758 84 |

### Expenditure Incurred Working at:

| | Meaford, Ont. | Spragge, Ont. | Owen Sound, Ont. | Collingwood, Ont. | | | | Totals. |
|---|---|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | $ cts. | $ cts. | | | | $ cts. |
| Wages—Dredge and departmental tugs | 4,472 57 | 3,170 91 | 1,954 09 | 2,812 06 | | | | 12,409 63 |
| Provisions—Dredge and departmental tugs | 1,227 86 | 870 52 | 536 46 | 772 01 | | | | 3,406 85 |
| Fuel—Dredge and departmental tugs | 2,259 92 | 1,602 22 | 987 37 | 1,420 90 | | | | 6,270 44 |
| Stores and equipment—Dredge and departmental tugs | 1,118 44 | 792 94 | 488 66 | 703 21 | | | | 3,103 25 |
| Contingencies—Dredge and departmental tugs | 200 28 | 141 99 | 87 51 | 125 93 | | | | 555 71 |
| Water—Dredge and departmental tugs | | | | | | | | |
| Pilotage and towage—Dredge and departmental tugs | 9 01 | 19 39 | 13 94 | 5 66 | | | | 48 00 |
| Wharfage—Dredge and departmental tugs | | | | | | | | |

| | | |

## ONTARIO AND QUEBEC—*Continued.*

### Departmental Dredge 'International,' and Plant in Attendance.

| —— | April. | May. | June. | July. | August. | September | October. | November. | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c.yds | | 10,059 | 19,479 | 19,137 | 23,818 | 15,714 | 26,830 | 12,734 | | | | | 127,771 |
| Kind of material | | sand, hard pan. | Sand, hard pan, boulders. | Stone, mud, timber, sand, boulders. | Sand, boulders | Sand, boulders, clay, gravel | Sand, boulders. | Sand, hard pan, boulders | | | | | |
| Total possible dredging time | | H. M. 200 00 | H. M. 255 00 | H. M. 270 00 | H. M. 270 00 | H. M. 250 00 | H. M. 270 00 | H. M. 200 00 | | | | | H. M. 1,715 00 |
| Hours actually dredging | | 90 00 | 106 30 | 117 00 | 129 00 | 85 00 | 166 00 | 75 30 | | | | | 769 00 |
| Per hour, actually dredging.....c. yds. | | 112 | 182 | 163 | 184 | 184 | 161 | 168 | | | | | 168 |

### Details of Expenditure.

| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | 362 17 | 766 33 | 783 00 | 783 06 | 849 67 | 859 14 | 988 24 | 876 50 | 581 75 | 41 56 | 115 48 | 662 69 | 7,669 59 |
| Provisions | 110 69 | 240 50 | 249 00 | 250 74 | 278 71 | 295 98 | 293 71 | 297 50 | 168 37 | | 3 87 | 129 68 | 2,318 75 |
| Fuel | | | | | 495 27 | 1,023 90 | | 252 51 | | 400 37 | | 36 00 | 2,208 05 |
| Stores and equipment | 20 95 | | 55 71 | 155 49 | 86 12 | 714 80 | 330 88 | 69 39 | 12 20 | | | 219 43 | 1,664 97 |
| Contingencies | 14 10 | 17 90 | 93 29 | 8 60 | 9 00 | 35 39 | 32 14 | 9 00 | 9 05 | 656 57 | | 136 71 | 1,021 75 |
| Water | | | | | | | | | | | | | |
| Pilotage and towage | | | | | | | | | | | | | |
| Wharfage | | | | | | | | | | | | | |
| Rental hired tugs | | | | 229 00 | | 488 00 | | | 5 00 | 15 00 | 10 00 | | 747 00 |
| Repairs (inc. all items charged to D.V. repairs) | 197 74 | 587 79 | 2,066 17 | 413 14 | 799 02 | 98 91 | 366 25 | 308 65 | 1,736 97 | 10 73 | 508 81 | 3,671 38 | 10,765 56 |
| Repairs—Extraordinary | | | | | | | | | | | | | |
| Totals | 705 65 | 1,612 52 | 3,247 17 | 1,840 03 | 2,517 79 | 3,516 12 | 2,011 22 | 1,813 55 | 2,513 34 | 1,124 23 | 638 16 | 4,855 89 | 26,395 67 |

### Expenditure Incurred Working At:

| —— | Three Rivers, Que. | Batiscan, Que. | Quebec, Que. | Grosse Isle, Que. | — | — | — | Totals. |
|---|---|---|---|---|---|---|---|---|
| | $ cts | $ cts. | $ cts | $ cts | $ cts | $ cts | $ cts. | $ cts. |
| Wages—Dredge and departmental tugs | 1,381 33 | 578 46 | 4,981 74 | 728 06 | | | | 7,669 59 |
| Provisions—Dredge and departmental tugs | 417 62 | 174 88 | 1,506 14 | 220 11 | | | | 2,318 75 |
| Fuel—Dredge and departmental tugs | 397 67 | 166 54 | 1,434 24 | 209 60 | | | | 2,208 05 |
| Stores and equipment—Dredge and departmental tugs | 299 87 | 125 58 | 1,081 47 | 158 05 | | | | 1,664 97 |
| Contingencies—Dredge and departmental tugs | 184 02 | 77 06 | 663 67 | 97 00 | | | | 1,021 75 |
| Water—Dredge and departmental tugs | | | | | | | | |
| Pilotage and towage—Dredge and departmental tugs | | | | | | | | |
| Wharfage—Dredge and departmental tugs | | | | | | | | |

| | | |

## ONTARIO AND QUEBEC—*Continued.*

### Departmental Dredge 'Lac St. Jean,' and Plant in Attendance.

| | April. | May. | June. | July. | August. | September. | October. | November. | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c.yds | | | 378 | 2,178 | 4,398 | 5,796 | 3,078 | 702 | | | | | 16,530 |
| Kind of material | | | Clay, boulders. | Clay, boulders, sand | Clay, boulders. | Clay, boulders. | Clay slabs, sand. | Clay boulders, sawdust, slabs | | | | | |
| Total possible dredging time | | | H. M. 190 00 | H. M. 270 00 | H. M. 270 00 | H. M. 250 00 | H. M. 270 00 | H. M. 50 00 | | | | | H. M. 13 00 |
| Hours actually dredging | | | 49 00 | 194 00 | 135 00 | 159 30 | 113 30 | 27 00 | | | | | 678 00 |
| Per hour, actually dredging | | | 32 00 | 11 00 | 32 00 | 36 00 | 27 00 | 26 00 | | | | | 24 00 |

### Details of Expenditure.

| | April. | May. | June. | July. | August. | September. | October. | November. | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| Wages | 422 96 | 413 79 | 657 64 | 498 86 | 500 00 | 538 75 | 534 87 | 361 52 | 21 25 | 125 21 | | 548 18 | 4,623 03 |
| Provisions | | 204 70 | 209 76 | 165 00 | 165 00 | 165 00 | 165 00 | 82 50 | | 3 00 | | | 1,159 96 |
| Fuel | 375 00 | 375 00 | 59 06 | | | 50 00 | | | | | | | 859 06 |
| Stores and equipment | 180 56 | 101 00 | 73 36 | | 113 80 | 71 68 | 20 55 | 27 05 | 45 96 | 5 50 | | 117 65 | 757 11 |
| Contingencies | 7 35 | | 36 20 | | | 2 33 | | 12 57 | 16 46 | 3 20 | | 22 52 | 100 63 |
| Water | | | | | | | | | | | | | |
| Pilotage and towage | | | | | | | | | | | | | |
| Wharfage | | | | | | | | | | | | | |
| Rental hired tugs | | | | | | | | | | | | | |
| Repairs (inc. all items charged to D.V rep'rs) | | 64 49 | | | | | 101 40 | | 15 00 | | 41 06 | 1,021 62 | 1,243 57 |
| Repairs—Extraordin'y | | | | | | | | | | | | | |
| Totals | 985 87 | 1,158 98 | 1,036 02 | 663 86 | 778 80 | 827 76 | 821 82 | 483 64 | 98 67 | 136 91 | 41 06 | 1,709 97 | 8,743 36 |

### Expenditure Incurred Working at

| | St. Felicien. | Roberval | | | | | | Totals. |
|---|---|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | | | | | | $ cts. |
| Wages—Dredge and departmental tugs | 334 11 | 4,288 92 | | | | | | 4,623 03 |
| Provisions—Dredge and departmental tugs | 83 83 | 1,076 13 | | | | | | 1,159 96 |
| Fuel—Dredge and departmental tugs | 62 09 | 796 97 | | | | | | 859 06 |
| Stores and equipment—Dredge and departmental tugs | 54 72 | 702 39 | | | | | | 757 11 |
| Contingencies—Dredge and departmental tugs | 7 27 | 93 36 | | | | | | 100 63 |
| Water—Dredge and departmental tugs | | | | | | | | |
| Pilotage and towage—Dredge and departmental tugs | | | | | | | | |
| Wharfage—Dredge and departmental tugs | | | | | | | | |

| | | |

## ONTARIO AND QUEBEC—*Continued.*

### Departmental Dredge 'Mattawa,' and Plant in Attendance.

| | April. | May. | June. | July. | August. | September. | October. | November | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c.yds | | 5,830 | 22,310 | 9,640 | 12,500 | 19,535 | 12,690 | 3,850 | | | | | 86,355 |
| Kind of material | | Sand, clay. | Sand, clay. | Sand, clay. | Sand. | Sand, clay. | Sand, clay. | Sand. | | | | | |
| Total possible dredging time | | H. M. 90 00 | H. M. 250 00 | H. M. 270 00 | H. M. 270 00 | H. M. 250 00 | H. M. 270 00 | H. M. 100 00 | | | | | H. M. 1,500 00 |
| Hours actually dredging | | 65 00 | 212 00 | 123 00 | 165 00 | 216 00 | 161 00 | 48 00 | | | | | 990 00 |
| Per hour, actually dredging, c. yds. | | 90 00 | 105 00 | 78 00 | 75 00 | 90 00 | 79 00 | 80 00 | | | | | 87 00 |

### Details of Expenditure.

| | $ cts. | $ cts | $ cts | $ cts | $ cts | $ cts | $ cts. | $ cts | $ cts | $ cts | $ cts | $ cts | $ cts |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | 573 24 | 586 38 | 526 04 | 327 43 | 548 00 | 516 83 | 430 05 | 477 67 | 30 00 | 81 00 | | 544 29 | 4,640 93 |
| Provisions | 127 00 | 165 00 | 167 90 | 116 00 | 165 00 | 175 10 | 126 78 | 190 85 | 2 10 | | | 67 02 | 1,302 75 |
| Fuel | | | 942 48 | 84 43 | 361 46 | 397 28 | 690 60 | 192 76 | 968 65 | | 15 00 | 15 68 | 3,668 34 |
| Stores and equipment | 92 85 | 53 66 | 67 53 | 4 05 | 257 62 | 4 53 | 155 66 | | 5 35 | 85 00 | | 367 15 | 1,093 40 |
| Contingencies | 186 41 | 129 46 | 67 00 | 108 96 | 33 46 | 37 92 | | 34 15 | 51 20 | | | 166 02 | 814 58 |
| Water | | | | | | | | | | | | | |
| Pilotage and towage | | | 20 00 | | 52 00 | | | | | | | | |
| Wharfage | | | | | | | | | | | | | |
| Rental hired tugs | | | | | | | | | | | | | 72 00 |
| Repairs (inc all items charged to D.V. rep'rs) | 668 54 | 469 52 | 253 40 | 617 86 | 525 47 | 553 79 | 427 93 | 201 49 | 386 50 | 1,647 91 | 818 79 | 349 21 | 6,920 41 |
| Repairs—Extraordinary | | | | | | | | | | | | | |
| Totals | 1,648 04 | 1,404 02 | 2,044 35 | 1,258 73 | 1,943 01 | 1,685 45 | 1,831 02 | 1,096 92 | 1,443 80 | 1,813 91 | 883 79 | 1,509 37 | 18,512 41 |

### Expenditure Incurred Working at:

| | South River. | North Bay. | Sturgeon River. | — | — | — | — | Totals. |
|---|---|---|---|---|---|---|---|---|
| | $ cts | $ cts | $ cts | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| Wages—Dredge and departmental tugs | 2,006 38 | 642 23 | 1,992 32 | | | | | 4,640 93 |
| Provisions—Dredge and departmental tugs | 563 20 | 180 28 | 559 27 | | | | | 1,302 75 |
| Fuel—Dredge and departmental tugs | 1,585 91 | 507 64 | 1,574 79 | | | | | 3,668 34 |
| Stores and equipment—Dredge and departmental tugs | 472 70 | 151 31 | 469 39 | | | | | 1,093 40 |
| Contingencies—Dredge and departmental tugs | 352 16 | 112 73 | 349 69 | | | | | 814 58 |
| Water—Dredge and departmental tugs | | | | | | | | |
| Pilotage and towage—Dredge and departmental tugs | | | | | | | | |
| Wharfage—Dredge and departmental tugs | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Repairs—Dredge and departmental tugs | 2,991 | 86 | | 957 | 67 | | 2,970 | 88 | | | | | | | | | | | 6,920 | 41 |
| Repairs, extraordinary—Dredge and departmental tugs | | | | | | | | | | | | | | | | | | | | |
| Rental of hired tugs | 31 | 13 | | 9 | 96 | | 30 | 91 | | | | | | | | | | | 72 | 00 |
| Total expenditure—Dredge and departmental tugs | 7,972 | 21 | | 2,551 | 86 | | 7,916 | 34 | | | | | | | | | | | 18,440 | 41 |
| Total expenditure—Hired tugs | 31 | 13 | | 9 | 96 | | 30 | 91 | | | | | | | | | | | 72 | 00 |
| Total—complete expenditure | 8,003 | 34 | | 2,561 | 82 | | 7,947 | 25 | | | | | | | | | | | 18,512 | 41 |
| Cubic yards removed | 40,310 | | | 9,970 | | | 36,075 | | | | | | | | | | | | 86,355 | |
| Cost per cy. yd. (calculated from total expenditure) | c19·85 | | | c25·69 | | | c22·02 | | | | | | | | | | | | c21·44 | |
| Cost per hour actually dredging | $18 69 | | | $18·69 | | | $18·69 | | | | | | | | | | | | $18·69 | |
| Kind of material | Sand, clay | | | Sand, clay | | | Sand, clay | | | | | | | | | | | | | |
| Work commenced | May 22nd | | | Aug. 6th | | | Sept. 3rd | | | | | | | | | | | | | |
| Work completed | Aug. 3rd | | | Aug 30th | | | Nov. 12th | | | | | | | | | | | | | |

## DISTRIBUTION OF TIME IN HOURS.

| | H. | M. | % of total. | H. | M. | % of total. | H. | M. | % of total. | H. | M. | % of total. | H. | M. | % of total. | H. | M. | % of total. | H. | M. | % of total. | H. | M. | % of total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost by storms and weather | 9 | 00 | 1·4 | 2 | 00 | 0·8 | 49 | 00 | 7·8 | | | | | | | | | | | | | 60 | 00 | 4·0 |
| " repairs | 141 | 00 | 22·1 | 54 | 00 | 23·5 | 56 | 00 | 8·9 | | | | | | | | | | | | | 251 | 00 | 17·0 |
| " coaling | 8 | 00 | 1·4 | | | | 2 | 30 | 0·3 | | | | | | | | | | | | | 10 | 30 | 0·6 |
| " watering | | | | | | | | | | | | | | | | | | | | | | | | |
| " tide and current | | | | | | | | | | | | | | | | | | | | | | | | |
| " cleaning plant | 9 | 00 | 1·5 | | | | 4 | 30 | 0·7 | | | | | | | | | | | | | 13 | 30 | 0·8 |
| " cleaning boilers | | | | | | | | | | | | | | | | | | | | | | | | |
| " inspecting boilers | | | | 6 | 00 | 2·5 | | | | | | | | | | | | | | | | 6 | 00 | 0·4 |
| " holidays | 20 | 00 | 3·1 | | | | 10 | 00 | 1·6 | | | | | | | | | | | | | 30 | 00 | 2·0 |
| " waiting on scows or tug | 4 | 00 | 0·6 | | | | 20 | 00 | 3·2 | | | | | | | | | | | | | 24 | 00 | 1·6 |
| " waiting orders | | | | 10 | 00 | 4·3 | | | | | | | | | | | | | | | | 10 | 00 | 0·6 |
| " towing and preparing for work | | | | 6 | 00 | 2·5 | 11 | 00 | 1·7 | | | | | | | | | | | | | 17 | 00 | 1·1 |
| " moving dredge and changing cut | 4 | 00 | 0·6 | 3 | 00 | 1·6 | | | | | | | | | | | | | | | | 7 | 00 | 0·5 |
| " short of coal or supplies | 17 | 00 | 2·3 | 12 | 00 | 5·2 | 52 | 00 | 8·3 | | | | | | | | | | | | | 81 | 00 | 5·4 |
| " miscellaneous | | | | | | | | | | | | | | | | | | | | | | | | |
| Total time lost | 212 | 00 | 33·0 | 93 | 00 | 40·4 | 205 | 00 | 32·5 | | | | | | | | | | | | | 510 | 00 | 34 |
| Time actually dredging | 428 | 00 | 67·0 | 137 | 00 | 59·6 | 425 | 00 | 67·5 | | | | | | | | | | | | | 990 | 00 | 66 |
| Possible dredging time | 640 | 00 | 100 | 230 | 00 | 100 | 630 | 00 | 100 | | | | | | | | | | | | | 1500 | 00 | 100 |

*Names of Departmental Tugs included in expenditure, dates between which employed, and localities.*—Tug *Catherine C.* all season.
*Names of Rented Tugs included in expenditure, dates between which employed, and localities.*—Tug *Albino*, May 14, South River. Tug *Albino*, July 2, 5, 20, 26 South River.
*Date Dredge put in Commission.*—May 11, 1912. *Dredge laid up for winter at* Sturgeon Falls, Ont., December 7, 1912.

## ONTARIO AND QUEBEC—*Continued.*

### Departmental Dredge 'Nipissing,' and Plant in Attendance.

| | April. | May. | June. | July. | August. | September | October. | November. | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c.yds | | 2,545 | 2,463 | 7,326 | 3,376 | 4,567 | 6,500 | 2,250 | | | | | 29,027 |
| Kind of material | | Rock, clay. | Boulders, clay. | Clay, rock, quicksand hardpan. | Boulders, clay, stones sand, rock | Clay, boulders, rock sand, sawdust. | Sawdust, slabs, gravel, rock, stones, clay. | Stones, gravel, clay. | | | | | |
| Total possible dredging time | | H. M. 220 00 | H. M. 250 00 | H. M. 270 00 | H. M. 270 00 | H. M. 250 00 | H. M. 270 00 | H. M. 110 00 | | | | | H. M. 1,640 00 |
| Hours actually dredging | | 97 00 | 160 30 | 185 30 | 160 00 | 151 30 | 220 00 | 77 00 | | | | | 1,051 30 |
| Per hour actually dredging.....c. yds. | | 26 00 | 15 00 | 39 00 | 21 00 | 30 00 | 29 00 | 29 00 | | | | | 27 00 |

### DETAILS OF EXPENDITURE.

| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | 313 16 | 529 84 | 490 65 | 565 48 | 598 40 | 615 50 | 545 00 | 317 00 | 125 67 | 68 37 | 145 33 | 669 36 | 4,983 76 |
| Provisions | 53 75 | 194 99 | 165 00 | 165 60 | 167 80 | 157 50 | 150 00 | 62 00 | 12 00 | 43 31 | | 82 37 | 1,254 32 |
| Fuel | 8 00 | 719 16 | 68 50 | | 348 69 | | | 16 00 | | 15 42 | | 305 13 | 1,480 90 |
| Stores and equipment | 3 12 | 97 08 | 34 85 | 1 05 | 1 25 | 1 25 | 41 28 | | 1 12 | | | 411 34 | 592 34 |
| Contingencies | | 5 00 | 14 56 | 9 20 | 12 30 | 3 00 | 6 35 | 4 60 | 3 00 | | | 133 99 | 192 00 |
| Water | | | | | | | | | | | | | |
| Pilotage and towage | | | | | | | | | | | | | |
| Wharfage | | | | | | | | | | | | | |
| Rental hired tugs | | | | | | | | | | | | | |
| Repairs (inc. all items charged to D.V rep'rs) | 881 36 | 619 10 | 333 54 | 504 23 | 920 11 | 369 97 | 73 90 | 386 75 | 392 85 | 1,094 41 | 758 85 | 161 86 | 6,496 93 |
| Repairs—Extraordin'y | | | | | | | | | | | | | |
| Totals | 1,259 39 | | 1,107 10 | 1,245 56 | 2,048 55 | 1,147 22 | 816 53 | 786 35 | 534 64 | 1,221 51 | 904 18 | 1,764 05 | 15,000 25 |

### EXPENDITURE INCURRED WORKING AT

| | Bronson's Dock, Ottawa. | Victoria Island, Ottawa. | Hudson, Que. | St. Annes, Que. | Point aux Anglais. | Dowkers Island Channel. | Montebello, Que. | Totals. |
|---|---|---|---|---|---|---|---|---|
| | $ cts | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts | $ cts. |
| Wages—Dredges and departmental tugs | 52 13 | 2,405 38 | 1,045 10 | 40 29 | 1,061 68 | 346 00 | 33 18 | 4,983 76 |
| Provisions—Dredge and departmental tugs | 13 12 | 605 39 | 263 03 | 10 14 | 267 21 | 87 08 | 8 35 | 1,254 32 |
| Fuel—Dredge and departmental tugs | 15 50 | 714 75 | 310 54 | 11 97 | 315 47 | 102 81 | 9 86 | 1,480 90 |
| Stores and equipment—Dredge and departmental tugs | 6 20 | 285 89 | 124 21 | 4 79 | 126 19 | 41 12 | 3 94 | 592 34 |
| Contingencies—Dredge and departmental tugs | 2 00 | 92 67 | 40 27 | 1 55 | 40 90 | 13 33 | 1 28 | 192 00 |
| Water—Dredge and departmental tugs | | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Pilotage and towage—Dredge and departmental tugs | | | | | | | | |
| Wharfage—Dredge and departmental tugs | | | | | | | | |
| Repairs—Dredge and departmental tugs | 67 97 | 3,135 70 | 1,362 41 | 52 52 | 1,384 03 | 451 05 | 43 25 | 6,496 93 |
| Repairs, extraordinary—Dredge and departmental tugs | | | | | | | | |
| Rental of hired tugs | | | | | | | | |
| Total expenditure—Dredge and departmental tugs | 156 92 | 7,239 78 | 3,145 56 | 121 26 | 3,195 48 | 1,041 39 | 99 86 | 15,000 25 |
| Total expenditure—Hired tugs | | | | | | | | |
| Total—complete expenditure | 156 92 | 7,239 78 | 3,145 56 | 121 26 | 3,195 48 | 1,041 39 | 99 86 | 15,000 25 |
| Cubic yards removed | 125 | 15,190 | 4,139 | 10 | 8,335 | 987 | 241 | 29,027 |
| Cost per cu. yd. (calculated from total expenditure) | $1·26 | 47·66 cts. | 75·99 cts. | $12.12 | 38·33 cts. | $1·05 | 41·42 cts. | 51·67 cts. |
| Cost per hour actually dredging | $14.26 | $14.26 | $14.26 | $14.26 | $14.26 | $14.26 | $14.26 | $14.26 |
| Kind of material | Rock | Rock, sawdust, stones, gravel, slabs clay. | Boulders and clay. | Rock | Quicksand, clay, boulders, hardpan. | Rock, boulders, clay. | Clay | |
| Work commenced | May 7th. | May 9th<br>Sept. 12th. | August 13th<br>June 4th. | July 8th | July 11th | August 23rd | Sept. 10th | |
| Work completed | May 8th | May 25th<br>Nov. 13th. | August 20th<br>July 5th. | July 9th | August 12th | September 5 | September 10 | |

## DISTRIBUTION OF TIME IN HOURS.

| | H | M | % of total. | H | M | % of total | H | M | % of total. | H | M | % of total. | H | M | % of total. | H | M | % of total. | H | M | % of total. | H | M | % of total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost by storms and weather | | | | 17 | 00 | 2·4 | 27 | 00 | 6·4 | | | | 10 | 00 | 3·5 | | | | | | | 54 | 00 | 3·2 |
| " repairs | 4 | 00 | 20·0 | 64 | 00 | 9·1 | 74 | 30 | 17·7 | | | | 7 | 30 | 2·7 | 31 | 00 | 22·1 | | | | 181 | 00 | 11·0 |
| " coaling | | | | 20 | 30 | 2·9 | 7 | 30 | 1·8 | | | | 9 | 00 | 3·1 | 1 | 00 | 0·8 | | | | 38 | 00 | 2·3 |
| " watering | | | | | | | | | | | | | | | | | | | | | | | | |
| " tide and current | | | | | | | | | | | | | | | | | | | | | | | | |
| " cleaning plant | | | | 8 | 00 | 1·1 | 4 | 30 | 1·1 | | | | 5 | 00 | 1·7 | | | | | | | 17 | 30 | 1·1 |
| " cleaning boilers | | | | | | | | | | | | | 5 | 00 | 1·7 | | | | | | | 5 | 00 | 0·3 |
| " inspecting boilers | | | | | | | | | | | | | | | | | | | | | | | | |
| " holidays | | | | 20 | 00 | 2·8 | 20 | 00 | 4·8 | | | | | | | 10 | 00 | 7·1 | | | | 50 | 00 | 3·1 |
| " waiting on scows or tug | | | | 20 | 30 | 2·9 | | | | | | | 1 | 30 | 0·4 | | | | | | | 22 | 00 | 1·3 |
| " waiting orders | | | | | | | | | | 13 | 30 | 45·1 | | | | 25 | 00 | 17·9 | | | | 38 | 30 | 2·3 |
| " towing and preparing for work | | | | 21 | 30 | 3·1 | 61 | 00 | 14·5 | 5 | 00 | 16·6 | 10 | 00 | 3·5 | | | | 33 | 00 | 82·5 | 130 | 30 | 8·2 |
| " moving dredge and changing cut | | | | 11 | 00 | 1·6 | 2 | 00 | 0·5 | 3 | 00 | 10·0 | 7 | 30 | 2·7 | | | | | | | 23 | 30 | 1·4 |
| " short of coal or supplies | | | | | | | | | | | | | | | | | | | | | | | | |
| " miscellaneous | 5 | 00 | 25·0 | 10 | 00 | 1·4 | 4 | 00 | 0·9 | | | | 9 | 30 | 3·3 | | | | | | | 28 | 30 | 1·7 |
| Total lost time | 9 | 00 | 45·0 | 192 | 30 | 27·5 | 200 | 30 | 47·7 | 21 | 30 | 71·7 | 65 | 00 | 22·6 | 67 | 00 | 47·9 | 33 | 00 | 82·5 | 588 | 30 | 35·9 |
| Time actually dredging | 11 | 00 | 55·0 | 507 | 30 | | 220 | 30 | 52·3 | 8 | 30 | 28·3 | 224 | 00 | 77·4 | 73 | 00 | 52·1 | 7 | 00 | 17·5 | 1051 | 30 | 64·1 |
| Possible dredging time | 20 | 00 | 100·00 | 700 | 00 | 100·00 | 421 | 00 | 100·00 | 30 | 00 | 100·00 | 289 | 00 | 100·00 | 140 | 00 | 100·00 | 40 | 00 | 100·00 | 1640 | 00 | 100·00 |

*Names of Departmental Tugs included in expenditure, dates between which employed, and localities:*—Tug *Cliffside*, all season.
*Names of Rented Tugs included in expenditure, dates between which employed, and localities:*—None.
*Dredge put in commission*—May 6, 1912. *Dredge laid up for winter at* Ottawa, Ont., November 30, 1912.
*Remarks:*—Dredging at Bronson's dock, private work; removed 125 cu. yds. rock. charged $95, Bronson Co.
" St. Annes, Que., " " 10 " " $196.73 Vaudreuil Spring Syndicate

## ONTARIO AND QUEBEC—*Continued.*

### DEPARTMENTAL DREDGE 'NO. 1,' AND PLANT IN ATTENDANCE.

| | April. | May. | June. | July. | August. | September | October. | November | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c. yds. | | 1,051 | 3,427 | 3,124 | 4,740 | 1,539 | 685 | 2,527 | 676 | | | | 17,769 |
| Kind of material | | Clay. | Clay. | Clay. | Clay. | Clay, stones, rock. | Rock. | Clay, rock. | Clay. | | | | |
| Total possible dredging time | | H. M. 110 00 | H. M. 250 00 | H. M. 270 00 | H. M. 270 00 | H. M. 250 00 | H. M. 270 00 | H. M. 260 00 | H. M. 60 00 | | | | H. M. 1,740 00 |
| Hours actually dredging | | 70 00 | 250 00 | 230 00 | 230 00 | 200 00 | 175 00 | 230 00 | 60 00 | | | | 1,445 00 |
| Per hour, actually dredging...c. yds. | | 15 | 13 | 13 | 20 | 8 | 4 | 11 | 11 | | | | 12 |

### DETAILS OF EXPENDITURE.

| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | 63 00 | 725 11 | 1,009 00 | 1,010 25 | 1,033 00 | 992 50 | 888 25 | 894 50 | 183 44 | 243 25 | 30 00 | 307 00 | 7,379 30 |
| Provisions | | | | | | | 238 85 | 51 85 | | 305 50 | | | 596 20 |
| Fuel | | | | | | | 455 85 | 180 78 | 175 05 | 120 47 | | 12 00 | 1,576 77 |
| Stores and equipment | | | 6 00 | 81 07 | 545 55 | | 34 62 | 12 04 | | 14 70 | | 99 49 | 205 92 |
| Contingencies | 14 70 | | 8 00 | 14 80 | 7 57 | | | | | | | | |
| Water | | | | | | | | | | | | | |
| Pilotage and towage | | | | | | | | | | | | | |
| Wharfage | | | | | | | | | | | | | |
| Rental hired tugs | | | | | | | | | | | | | |
| Repairs (inc. all items charged to D.V. rep'rs) | | | | | | | 129 51 | | 18 00 | | | 4 00 | 151 51 |
| Repairs—Extraordinary | | | | | | | | | | | | | |
| Totals | 77 70 | 725 11 | 1,023 00 | 1,106 12 | 1,586 12 | 992 50 | 1,747 08 | 1,139 17 | 376 49 | 683 92 | 30 00 | 422 49 | 9,909 70 |

### EXPENDITURE INCURRED WORKING AT:

| | River St. Louis, Que. | — | — | — | — | — | — | Totals. |
|---|---|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts | $ cts. |
| Wages—Dredge and departmental tugs | 7,379 30 | | | | | | | 7,379 30 |
| Provisions—Dredge and departmental tugs | 596 20 | | | | | | | 596 20 |
| Fuel—Dredge and departmental tugs | 1,576 77 | | | | | | | 1,576 77 |
| Stores and equipment—Dredge and departmental tugs | 205 92 | | | | | | | 205 92 |
| Contingencies—Dredge and departmental tugs | | | | | | | | |
| Water—Dredge and departmental tugs | | | | | | | | |
| Pilotage and towage—Dredge and departmental tugs | | | | | | | | |
| Wharfage—Dredge and departmental tugs | | | | | | | | |
| Repairs—Dredge and departmental tugs | 151 51 | | | | | | | 151 51 |

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Repairs, extraordinary—Dredge and departmental tugs | | | | | | | | | | | | | | | | | | | | |
| Rental of hired tugs | | | | | | | | | | | | | | | | | | | | |
| Total expenditure—Dredge and departmental tugs | 9,909 | 70 | | | | | | | | | | | | | | | | | 9,909 | 70 |
| Total expenditure—Hired tugs | | | | | | | | | | | | | | | | | | | | |
| Total—Complete expenditure | 9,909 | 70 | | | | | | | | | | | | | | | | | 9,909 | 70 |
| Cubic yards removed | 17,769 | | | | | | | | | | | | | | | | | | 17,769 | |
| Cost per cu. yd. (calculated from total expenditure) | c55 | 76 | | | | | | | | | | | | | | | | | c55·76 | |
| Cost per hour actually dredging | $6·85 | | | | | | | | | | | | | | | | | | $6·85 | |
| Kind of material | Clay, stone, rock. | | | | | | | | | | | | | | | | | | | |
| Work commenced | May 20th. | | | | | | | | | | | | | | | | | | | |
| Work completed | Dec. 7th. | | | | | | | | | | | | | | | | | | | |

DISTRIBUTION OF TIME IN HOURS.

| | H. M. | % of total. | H. M. | % of total. | H. M. | % of total. | H. M. | % of total. | H. M. | % of total. | H. M. | % of total. | H. M. | % of tota . | H. M. | % of total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost by storms and weather | | | | | | | | | | | | | | | | |
| " repairs | 255 00 | 14·6 | | | | | | | | | | | | | 255 00 | 14·6 |
| " coaling | 10 00 | 0·6 | | | | | | | | | | | | | 10 00 | 0·6 |
| " watering | | | | | | | | | | | | | | | | |
| " tide and current | | | | | | | | | | | | | | | | |
| " cleaning plant | | | | | | | | | | | | | | | | |
| " cleaning boilers | | | | | | | | | | | | | | | | |
| " inspecting boilers | | | | | | | | | | | | | | | | |
| " holidays | 20 00 | 1·2 | | | | | | | | | | | | | 20 00 | 1·2 |
| " waiting on scows or tug | | | | | | | | | | | | | | | | |
| " waiting orders | | | | | | | | | | | | | | | | |
| " towing and preparing for work | | | | | | | | | | | | | | | | |
| " moving dredge and changing cut | | | | | | | | | | | | | | | | |
| " short of coal or supplies | | | | | | | | | | | | | | | | |
| " miscellaneous | 10 00 | 0·6 | | | | | | | | | | | | | 10 00 | 0·6 |
| Total lost time | 295 00 | 17·0 | | | | | | | | | | | | | 295 00 | 17·0 |
| Time actually dredging | 1445 00 | 83·0 | | | | | | | | | | | | | 1445 00 | 83·0 |
| Possible dredging time | 1740 00 | 100 | | | | | | | | | | | | | 1740 00 | 100 |

*Names of Departmental Tugs included in expenditure, dates between which employed, and localities:*—None.
*Names of Rented Tugs included in expenditure, dates between which employed, and localities:*—None.
*Date Dredge put in Commission.*—May 18. *Dredge laid up for winter at* St. Louis de Gonzague, Dec. 14, 1912
*Remarks.*—Dredge casting over all season.

## ONTARIO AND QUEBEC—*Continued.*

### Departmental Dredge 'No. 2,' and Plant in Attendance.

| | April. | May. | June. | July. | August. | September. | October. | November. | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c.yds | | | 237 | 7,144 | 2,403 | 645 | 6,354 | 3,494 | | | | | 20,277 |
| Kind of material | | | Clay. | Clay. | Gravel, boulders, hard-pan, clay. | Hardpan, boulders, rock. | Clay | Clay | | | | | |
| Total possible dredging time | | | H M 40 00 | H M 270 00 | H M 270 00 | H M 251 30 | H M 311 30 | H M 130 00 | | | | | H M 1,273 00 |
| Hours actually dredging | | | 18 00 | 140 30 | 98 30 | 65 30 | 123 15 | 70 00 | | | | | 515 45 |
| Per hour actually dredging.....c. yds. | | | 13 | 51 | 24 | 10 | 52 | 49 | | | | | 39 |

### Details of Expenditure.

| | April. | May. | June. | July. | August. | September. | October. | November. | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | $ cts. 237 00 | $ cts. 605 00 | $ cts. 573 67 | $ cts. 575 00 | $ cts. 495 00 | $ cts. 345 50 | $ cts. 464 56 | $ cts. 590 00 | $ cts. 288 88 | $ cts. 33 87 | $ cts. | $ cts. 593 24 | $ cts. 4,801 72 |
| Provisions | 2 90 | 200 00 | 179 70 | 180 00 | 171 89 | 110 27 | 139 63 | 180 00 | 83 76 | | | | 1,248 15 |
| Fuel | | | | | 361 97 | 26 70 | 26 50 | | 32 07 | 702 14 | 20 15 | 35 | 1,169 88 |
| Stores and equipment | 15 75 | 139 19 | 9 79 | 10 50 | 10 98 | 11 11 | 60 79 | 53 27 | 16 09 | | 15 09 | 212 14 | 554 70 |
| Contingencies | 5 56 | 8 10 | 8 57 | 3 62 | 5 25 | 7 05 | 7 01 | 9 00 | 9 85 | 68 12 | 2 00 | 136 81 | 270 94 |
| Water | | | | | | | | | | | | | |
| Pilotage and towage | | | | | | | | | | | | | |
| Wharfage | | | | | | | | | | | | | |
| Rental hired tugs | | | | | | | | | | | | | |
| Repairs (inc. all items charged to D.V. repairs | 522 62 | 201 48 | 90 71 | 256 27 | 80 94 | 396 91 | 414 51 | 101 01 | 15 58 | 365 82 | 411 32 | 308 92 | 3,166 09 |
| Repairs—Extraordinary | | | | | | | | | | | | | |
| Totals | 783 83 | 1,153 77 | 862 44 | 1,025 39 | 1,126 03 | 897 54 | 1,113 00 | 933 28 | 446 23 | 1,169 95 | 448 5 | 1,251 46 | 11,211 48 |

### Expenditure Incurred Working at:

| | La Salette, Que. | Long Rapids, Que. | High Falls, Que | Poupore, Que | | | | Totals. |
|---|---|---|---|---|---|---|---|---|
| | $ cts. | $ cts | $ cts | $ cts | | | | $ cts |
| Wages—Dredge and departmental tugs | 1,531 52 | 828 61 | 642 40 | 1,799 19 | | | | 4,801 72 |
| Provisions—Dredge and departmental tugs | 398 10 | 215 38 | 166 99 | 467 68 | | | | 1,248 15 |
| Fuel—Dredge and departmental tugs | 373 14 | 201 88 | 156 51 | 438 35 | | | | 1,169 88 |
| Stores and equipment—Dredge and departmental tugs | 176 92 | 95 72 | 74 21 | 207 85 | | | | 554 70 |
| Contingencies—Dredge and departmental tugs | 86 42 | 46 75 | 36 25 | 101 52 | | | | 270 94 |
| Water—Dredge and departmental tugs | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pilotage and towage—Dredge and departmental tugs | | | | | | | | | | | | | | | | | | | | |
| Wharfage—Dredge and departmental tugs | | | | | | | | | | | | | | | | | | | | |
| Repairs—Dredge and departmental tugs | 1,009 | 83 | | 546 | 36 | | 423 | 58 | | 1,186 | 32 | | | | | | | | 3,166 | 09 |
| Repairs, extraordinary—Dredge and departmental tugs | | | | | | | | | | | | | | | | | | | | |
| Rental of hired tugs | | | | | | | | | | | | | | | | | | | | |
| Total expenditure—Dredge and departmental tugs | 3,575 | 93 | | 1,934 | 70 | | 1,499 | 94 | | 4,200 | 91 | | | | | | | | 11,211 | 48 |
| Total expenditure—Hired tugs | | | | | | | | | | | | | | | | | | | | |
| Total—complete expenditure | 3,575 | 93 | | 1,934 | 70 | | 1,499 | 94 | | 4,200 | 91 | | | | | | | | 11,211 | 48 |
| Cubic yards removed | 7,691 | | | 801 | | | 1,937 | | | 9,848 | | | | | | | | | 20,277 | |
| Cost per cu. yd. (calculated from total expenditure) | 46·49 | cts | | $2.41 | | | 77·43 | cts. | | 42·65 | cts. | | | | | | | | 55·29 | cts. |
| Cost per hour actually dredging | $21.73 | | | $21.73 | | | $21 73 | | | $21.73 | | | | | | | | | $21.73 | |
| Kind of material | Clay | | | gravel, boulders, hardpan, clay, rock. | | | Hardpan, boulders, clay... | | | Clay | | | | | | | | | | |
| Work commenced | June 26th | | | August 9th. Sept. 4th. | | | August 15th | | | October 1st | | | | | | | | | | |
| Work completed | August 1st | | | August 14th. Sept. 28th. | | | August 31st | | | Nov. 15th | | | | | | | | | | |

19—i—A—22

DISTRIBUTION OF TIME IN HOURS.

| | H | M | % of total. | H | M | % of total. | H | M | % of total. | H | M | % of total. | H | M | % of total. | H | M | % of total. | H | M | % of total. | H | M | % of total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost by storms and weather | 3 | 00 | 0·8 | 6 | 00 | 2·0 | | | | 10 | 00 | 2·2 | | | | | | | | | | 19 | 00 | 1·4 |
| " repairs | 91 | 00 | 25·3 | 89 | 00 | 29·1 | 15 | 00 | 10·3 | 152 | 30 | 33·0 | | | | | | | | | | 347 | 30 | 27·1 |
| " coaling | 16 | 00 | 4·6 | 5 | 00 | 1·6 | 2 | 00 | 1·4 | 3 | 15 | 0·7 | | | | | | | | | | 26 | 15 | 2·1 |
| " watering | | | | | | | | | | | | | | | | | | | | | | | | |
| " tide and current | | | | | | | | | | 8 | 00 | 1·7 | | | | | | | | | | 8 | 00 | 0·6 |
| " cleaning plant | 5 | 30 | 1·5 | 5 | 00 | 1·6 | 2 | 00 | 1·4 | 8 | 00 | 1·7 | | | | | | | | | | 20 | 30 | 1·6 |
| " cleaning boilers | | | | | | | | | | | | | | | | | | | | | | | | |
| " inspecting boilers | | | | | | | 17 | 00 | 11·7 | | | | | | | | | | | | | 17 | 00 | 1·5 |
| " holidays | 10 | 00 | 2·8 | 10 | 00 | 3·4 | | | | 10 | 00 | 2·2 | | | | | | | | | | 30 | 00 | 2·5 |
| " waiting on scows or tug | 8 | 00 | 2·2 | | | | | | | 20 | 30 | 4·4 | | | | | | | | | | 28 | 30 | 2·2 |
| " waiting orders | | | | 10 | 00 | 3·4 | | | | | | | | | | | | | | | | 10 | 00 | 0·8 |
| " towing and preparing for work | | | | 25 | 00 | 8·2 | 5 | 00 | 3·4 | 21 | 30 | 4·6 | | | | | | | | | | 51 | 30 | 4·0 |
| " moving dredge and changing cut | 7 | 00 | 1·9 | 14 | 00 | 4·6 | | | | 22 | 00 | 4·8 | | | | | | | | | | 43 | 00 | 3·4 |
| " short of coal or supplies | 40 | 00 | 11·1 | | | | 26 | 00 | 17·9 | | | | | | | | | | | | | 66 | 00 | 5·2 |
| " miscellaneous | 15 | 00 | 4·2 | 52 | 00 | 17·1 | 9 | 00 | 6·2 | 14 | 00 | 3·2 | | | | | | | | | | 90 | 00 | 7·1 |
| Total lost time | 195 | 30 | 54·4 | 216 | 00 | 71·0 | 76 | 00 | 52·3 | 269 | 45 | 58·5 | | | | | | | | | | 757 | 15 | 59·5 |
| Time actually dredging | 164 | 30 | 45·6 | 89 | 00 | 29·0 | 69 | 00 | 47·7 | 193 | 15 | 41·5 | | | | | | | | | | 515 | 45 | 40·5 |
| Possible dredging time | 360 | 00 | 100 | 305 | 00 | 100 | 145 | 00 | 100 | 463 | 00 | 100 | | | | | | | | | | 1273 | 00 | 100 |

*Names of departmental tugs included in expenditure, and dates between which employed, and localities:*—Tug *Eileen*, all season.
*Names of Rented tugs included in expenditure, dates between which employed, and localities:*—None
*Date Dredge put in commission*—May 18, 1912. *Dredge laid up for winter at* Buckingham P.Q., December 19, 1912.
*Remarks:*—Dredge could not start operations sooner owing to high water.

## ONTARIO AND QUEBEC—*Continued.*

### Departmental Dredge 'No. 3,' and Plant in Attendance.

| | April. | May. | June. | July. | August. | September. | October | November. | December. | January. | February. | March. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c.yds | | 1,838 | 8,484 | 6,143 | 2,517 | 4,235 | 7,020 | 3,785 | | | | | 34,022 |
| Kind of material | | Sand, clay. | Sand, clay. | Clay, boulders. | Boulders, stones, clay, sand sunken barge. | Boulders, stones, clay, sand hard-pan. | Clay, boulders, stone hard-pan. | Sand, clay, boulders. | | | | | |
| Total possible dredging time | | H. M. 150 00 | H. M. 250 00 | H. M. 270 00 | H. M. 270 00 | H. M. 250 00 | H. M. 270 00 | H. M. 200 00 | | | | | H. M. 1,660 00 |
| Hours actually dredging | | 44 30 | 175 00 | 160 00 | 107 30 | 169 00 | 163 00 | 119 30 | | | | | 938 30 |
| Per hour, actually dredging.....c. yds. | | 42 | 48 | 38 | 24 | 25 | 43 | 32 | | | | | 36 |

### Details of Expenditure.

| | April. | May. | June. | July. | August. | September. | October | November. | December. | January. | February. | March. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | $ cts 317 16 | $ cts 420 65 | $ cts 520 00 | $ cts 520 00 | $ cts 649 35 | $ cts 670 00 | $ cts 633 88 | $ cts 525 00 | $ cts 104 36 | $ cts 144 35 | $ cts 50 00 | $ cts 881 89 | $ cts 5,436 64 |
| Provisions | 64 50 | 184 72 | 165 00 | 176 33 | 207 80 | 221 60 | 187 46 | 166 15 | 105 46 | 1 70 | | 80 84 | 1,561 56 |
| Fuel | 234 65 | | 16 00 | | 509 55 | 277 35 | 8 57 | 218 23 | | 6 00 | | 336 63 | 1,606 98 |
| Stores and equipment | 32 33 | 77 43 | 49 88 | | | 18 30 | 34 18 | | 10 38 | 72 | | 309 81 | 533 03 |
| Contingencies | 5 00 | 25 65 | 30 74 | 7 21 | 3 00 | 28 85 | 37 58 | 4 80 | 18 06 | 23 50 | 1 70 | 167 79 | 353 88 |
| Water | | | | | | | | | | | | | |
| Pilotage and towage | | | | | | | | 125 00 | | | | | 125 00 |
| Wharfage | | | | | | | | | | | | | |
| Rental hired tugs | | | | | | | | | | | | | |
| Repairs (inc. all items charged to D.V. rep'rs) | 722 29 | 151 02 | 43 41 | 136 94 | 38 46 | 262 66 | | 224 40 | 185 00 | 140 97 | 98 72 | 278 48 | 2,282 35 |
| Repairs—Extraordinary | | | | | | | | | | | | | |
| Totals | 1,375 93 | 859 47 | 825 03 | 840 48 | 1,408 16 | 1,478 76 | 901 67 | 1,263 58 | 423 26 | 317 24 | 150 42 | 2,055 44 | 11,899 44 |

### Expenditure Incurred Working at:

| | Grand Nord. | Bout de l'Ile. | Riv. du Loup en haut. | Caughnawaga | Dorval. | Dorion. | — | Totals. |
|---|---|---|---|---|---|---|---|---|
| Wages—Dredge and departmental tugs | $ cts 1,241 72 | $ cts 1,029 28 | $ cts 317 16 | $ cts 709 13 | $ cts 1,777 30 | $ cts 362 05 | $ cts | $ cts 5,436 64 |
| Provisions—Dredge and departmental tugs | 356 65 | 295 64 | 91 10 | 203 69 | 510 49 | 103 99 | | 1,561 56 |
| Fuel—Dredge and departmental tugs | 367 03 | 30' 24 | 93 75 | 209 61 | 525 34 | 107 01 | | 1,606 98 |
| Stores and equipment—Dredge and departmental tugs | 121 74 | 1. 91 | 31 10 | 69 52 | 174 26 | 35 50 | | 533 03 |
| Contingencies—Dredge and departmental tugs | 80 83 | 67 00 | 20 64 | 46 15 | 115 69 | 23 57 | | 353 88 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Water—Dredge and departmental tugs | | | | | | | |
| Pilotage and towage—Dredge and departmental tugs | | | | 100 00 | 25 00 | | 125 00 |
| Wharfage—Dredge and departmental tugs | | | | | | | |
| Repairs—Dredge and departmental tugs | 521 29 | 432 10 | 133 15 | 297 70 | 746 13 | 151 98 | 2,282 35 |
| Repairs—Extraordinary—Dredge and departmental tugs | | | | | | | |
| Rental of hired tugs | | | | | | | |
| Total expenditure—Dredge and departmental tugs | 2,689 26 | 2,229 17 | 686 90 | 1,635 80 | 3,874 21 | 784 00 | 11,899 44 |
| Total expenditure—Hired tugs | | | | | | | |
| Total—complete expenditure | 2,689 26 | 2,229 17 | 686 90 | 1,635 80 | 3,874 21 | 784 10 | 11,899 44 |
| Cubic yards removed | 10,062 | 6,403 | 2,160 | 1,082 | 11,896 | 2,419 | 34,022 |
| Cost per cu. yd. (calculated from total expenditure) | c.26·72 | c.34·81 | c.31·79 | $1·51 | c.32·56 | c.32·41 | c.34·97 |
| Cost per hour actually dredging | $12·96 | $12·96 | $12·96 | $13·38 | $13·04 | $12·96 | $13·09 |
| Kind of material | Clay, sand | Clay, boulders, sand | Clay, sand | Boulders, stone, hard-pan, clay, sand | Clay, stone, boulders, hard-pan, sand | Clay, stone, boulders, hard-pan, sand | |
| Work commenced | May 15th | June 29th | Aug. 1st | Aug. 26th | Sept. 16th | Nov. 11th | |
| Work completed | June 24th | July 25th | Aug. 16th | Sept. 12th | Nov. 8th | Nov. 23rd | |

## DISTRIBUTION OF TIME IN HOURS.

| | H. M. | % of total. | H. M. | % of total. | H. M. | % of total. | H. M. | % of total. | H. M. | % of total. | H. M. | % of total. | H. M. | % of total. | H. M. | % of total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost by storms and weather | 34 00 | 10·0 | 3 00 | 1·1 | | | 10 00 | 4·3 | 84 00 | 17·1 | 8 00 | 6·1 | | | 139 00 | 8·4 |
| " repairs | 58 30 | 16·5 | 27 00 | 10·0 | 20 00 | 11·0 | 13 00 | 4·9 | 25 00 | 5·1 | 19 30 | 15·1 | | | 163 00 | 9·8 |
| " coaling | 9 00 | 2·2 | 11 00 | 4·1 | 5 00 | 2·6 | 5 00 | 2·2 | 6 00 | 1·2 | 3 00 | 2·3 | | | 39 00 | 2·3 |
| " watering | | | | | | | | | | | | | | | | |
| " tide and current | | | 3 00 | 1·1 | | | | | | | | | | | 3 00 | 0·2 |
| " cleaning plant | 4 30 | 1·3 | 5 00 | 1·9 | 1 00 | 0·5 | 3 00 | 1·6 | 6 00 | 1·2 | 2 00 | 1·5 | | | 21 30 | 1·3 |
| " cleaning boilers | | | | | | | | | 10 00 | 2·0 | | | | | 10 00 | 0·6 |
| " inspecting boilers | | | | | | | | | | | | | | | | |
| " holidays | | | 10 00 | 3·7 | | | 10 00 | 4·4 | 20 00 | 4·1 | | | | | 40 00 | 2·4 |
| " waiting on scows or tug | 10 00 | 2·9 | | | 81 00 | 42·3 | | | | | 17 00 | 13·1 | | | 108 00 | 6·6 |
| " waiting orders | | | | | | | | | | | | | | | | |
| " towing and preparing for work | 10 00 | 2·9 | 30 00 | 11·1 | 30 00 | 15·8 | 61 00 | 26·5 | 10 00 | 2·0 | 10 00 | 7·7 | | | 151 00 | 9·1 |
| " moving dredge and changing cut | 6 30 | 1·8 | 9 00 | 3·3 | | | 4 30 | 1·9 | 15 00 | 3·1 | 6 00 | 4·6 | | | 41 00 | 2·5 |
| " short of coal or supplies | | | | | | | | | | | | | | | | |
| " miscellaneous | 10 00 | 2·9 | | | | | 5 00 | 2·2 | 17 00 | 3·6 | 4 00 | 3·1 | | | 36 00 | 2·2 |
| Total lost time | 142 30 | 42·5 | 98 00 | 36·3 | 137 00 | 72·2 | 111 30 | 48·0 | 193 00 | 39·4 | 69 30 | 53·5 | | | 751 30 | 45·4 |
| Time actually dredging | 207 30 | 57·5 | 172 00 | 63·7 | 53 00 | 27·8 | 118 30 | 52·0 | 297 00 | 60·6 | 60 30 | 46·5 | | | 908 30 | 54·6 |
| Possible dredging time | 350 00 | 100 | 270 00 | 100 | 190 00 | 100 | 230 00 | 100 | 490 00 | 100 | 130 00 | 100 | | | 1660 00 | 100 |

*Names of Departmental Tugs included in expenditure, dates between which employed, and localities*:—Tug *Mina G.*, May 15 to Sept. 14, Grand Nord, Bout de l'Ile, Riviere-du-Loup (en haut) nd Caughnawaga; Sept. 30 to Oct. 19, and Nov. 4 to 9, Dorval. Tug *Alva*, Sept. 16 to 28, Oct. 21 to Nov. 2, Nov. 11 to 23, Dorval.

*Names of Rented Tugs included in expenditure, dates between which employed, and localities*:—None.

*Date Dredge put in Commission.*—May 4. *Dredge laid up for winter at* Ottawa, Ont., Dec. 6, 1912.

## ONTARIO AND QUEBEC—*Continued.*

### Departmental Dredge 'No. 5,' and Plant in Attendance.

| | April. | May. | June. | July. | August. | September | October. | November. | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c.yds | | 4,342 | 10,770 | 11·548 | 9,140 | 8,241 | 10,746 | 10,027 | | | | | 64,814 |
| Kind of material | | Sand, silt, clay, loam | Clay, quick-sand, gravel | Loam, clay, sand. | Loam, clay, hardpan. | Clay, loam, sand. | Clay, loam, silt. | Clay, loam, silt. | | | | | |
| Total possible dredging time | | H. M. 170 00 | H. M. 250 00 | H. M. 270 00 | H. M. 270 00 | H. M. 250 00 | H. M. 270 00 | H. M. 260 00 | | | | | H. M. 1,740 00 |
| Hours actually dredging | | 76 00 | 168 00 | 170 00 | 157 00 | 101 00 | 178 30 | 184 00 | | | | | 1,034 30 |
| Per hour, actually dredging c. yds. | | 57 00 | 64 00 | 68 00 | 58 00 | 81 00 | 60 00 | 54 00 | | | | | 62 00 |

### Details of Expenditure.

| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | 403 33 | 544 03 | 523 83 | 580 81 | 526 60 | 581 90 | 564 37 | 566 14 | 127 58 | 101 61 | | 796 34 | 5,316 54 |
| Provisions | 110 33 | 162 14 | 115 00 | 128 02 | 260 68 | 162 50 | 165 00 | 169 50 | 37 26 | 20 28 | | 47 17 | 1,377 88 |
| Fuel | 52 15 | 73 53 | 450 26 | 7 00 | 973 89 | 445 60 | | 183 40 | 174 15 | | | 7 00 | 2,366 98 |
| Stores and equipment | 27 73 | 151 70 | 59 50 | | 171 98 | 67 32 | | 9 28 | 1 50 | 16 54 | | 155 29 | 660 84 |
| Contingencies | 8 44 | 10 20 | 7 15 | 45 00 | 1 50 | 3 15 | 3 00 | 15 52 | 56 91 | 8 03 | | 270 19 | 429 09 |
| Water | | | | | | | | | | | | | |
| Pilotage and towage | | | 5 00 | | | | | | | | | | 5 00 |
| Wharfage | | | | | | | | | | | | | |
| Rental hired tugs | | | | | | | | | | | | | |
| Repairs (inc. all items charged to D.V rep'rs) | 3,199 95 | 581 62 | 306 18 | 233 44 | 618 72 | 222 50 | 302 77 | 82 70 | 347 55 | 3 83 | 55 17 | 89 31 | 6,043 74 |
| Repairs—Extraordin'y. | | | | | | | | | | | | | |
| Totals | 3,801 93 | 1,523 22 | 1,466 92 | 994 27 | 2,553 37 | 1,482 97 | 1,035 14 | 1,026 54 | 744 95 | 150 29 | 55 17 | 1,365 30 | 16,200 07 |

### Expenditure Incurred Working at:

| | Hamilton, Ont. | | | | | | | Totals. |
|---|---|---|---|---|---|---|---|---|
| | $ cts. | | | | | | | $ cts. |
| Wages—Dredge and departmental tugs | 5,316 54 | | | | | | | 5,316 54 |
| Provisions—Dredge and departmental tugs | 1,377 88 | | | | | | | 1,377 88 |
| Fuel—Dredge and departmental tugs | 2,366 98 | | | | | | | 2,366 98 |
| Stores and equipment—Dredge and departmental tugs | 660 84 | | | | | | | 660 84 |
| Contingencies—Dredge and departmental tugs | 429 09 | | | | | | | 429 09 |
| Water—Dredge and departmental tugs | | | | | | | | |
| Pilotage and towage—Dredge and departmental tugs | 5 00 | | | | | | | 5 00 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Wharfage—Dredge and departmental tugs | | | | | | | | | |
| Repairs—Dredge and departmental tugs | 6,043 74 | | | | | | | | 6,043 74 |
| Repairs, extraordinary—Dredge and departmental tugs | | | | | | | | | |
| Rental of hired tugs | | | | | | | | | |
| Total expenditure—Dredge and departmental tugs | 16,200 07 | | | | | | | | 16,200 07 |
| Total expenditure—Hired tugs | | | | | | | | | |
| Total—complete expenditure | 16,200 07 | | | | | | | | 16,200 07 |
| Cubic yards removed | 64,814 | | | | | | | | 64,814 |
| Cost per cubic yard (calculated from total expenditure) | 24·99 cts. | | | | | | | | 24·99 cts. |
| Cost per hour, actually dredging | $15.65 | | | | | | | | $15.65 |
| Kind of material | Sand, silt, clay, loam, quick-sand, hard-pan. | | | | | | | | |
| Work commenced | May 14. | | | | | | | | |
| Work completed | Nov. 30. | | | | | | | | |

DISTRIBUTION OF TIME IN HOURS.

| | H | M | % of total. | % of total. | % of total. | % of total. | % of total. | % of total. | % of total. | H | M | % of total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost by storms and weather | 121 | 00 | 6·9 | | | | | | | 121 | 00 | 6·9 |
| " repairs | 325 | 30 | 18·8 | | | | | | | 325 | 30 | 18·8 |
| " coaling | 32 | 30 | 1·9 | | | | | | | 32 | 30 | 1·9 |
| " watering | | | | | | | | | | | | |
| " tide and current | | | | | | | | | | | | |
| " cleaning plant | 26 | 30 | 1·6 | | | | | | | 26 | 30 | 1·6 |
| " cleaning boilers | 37 | 00 | 2·1 | | | | | | | 37 | 00 | 2·1 |
| " inspecting boilers | 13 | 00 | 0·7 | | | | | | | 13 | 00 | 0·7 |
| " holidays | 60 | 00 | 3·4 | | | | | | | 60 | 00 | 3·4 |
| " waiting on scows or tugs | 16 | 00 | 0·9 | | | | | | | 16 | 00 | 0·9 |
| " waiting orders | | | | | | | | | | | | |
| " towing and preparing for work | 11 | 00 | 0·6 | | | | | | | 11 | 00 | 0·6 |
| " moving dredge and changing cut | 49 | 30 | 2·8 | | | | | | | 49 | 30 | 2·8 |
| " short of coal or supplies | | | | | | | | | | | | |
| " miscellaneous | 13 | 30 | 0·8 | | | | | | | 13 | 30 | 0·8 |
| Total lost time | 705 | 30 | 40·5 | | | | | | | 705 | 30 | 40·5 |
| Time actually dredging | 1,034 | 30 | 59·5 | | | | | | | 1,034 | 30 | 59·5 |
| Possible dredging time | 1,740 | 00 | 100 | | | | | | | 1,740 | 00 | 100 |

*Names of departmental Tugs included in expenditure, dates between which employed, and localities:*—May 13 to 18, tug *Peel*, Hamilton; tug *Sir John*, all season.
*Names of rented tugs included in expenditure, dates between which employed, and localities:*—None.
*Date dredge put in commission*—May 11, 1912. *Dredge laid up for winter at* Port Dalhousie, Ont., December 21, 1912.

## ONTARIO AND QUEBEC—*Continued.*

### Departmental Dredge No. 6, and Plant in Attendance.

| | April. | May. | June. | July. | August. | September. | October. | November. | December | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c.yds | | 1,083 | 115 | 5,993 | 2,215 | 2,911 | 2,181 | 1,571 | | | | | 16,069 |
| Kind of material | | Boulders, gravel. | Gravel, boulders, hardpan | Boulders, stone, clay hardpan | Boulders, stone, hardpan | Boulders, stones, gravel | Boulders, stones, gravel | Boulders, stones, gravel | Boulders, | | | | |
| | | H. M. | H. M. | H. M. | H. M. | H. M. | H. M. | H. M. | H. M. | | | | H. M. |
| Total possible dredging time | | 190 00 | 250 00 | 270 00 | 270 00 | 250 00 | 270 00 | 140 00 | | | | | 1,640 00 |
| Hours actually dredging | | 88 30 | 10 00 | 188 30 | 155 00 | 151 30 | 148 00 | 96 00 | | | | | 840 30 |
| Per hour, actually dredging c. yds. | | 12 | 11 | 32 | 14 | 19 | 15 | 16 | | | | | 19 |

### DETAILS OF EXPENDITURE.

| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | 236 16 | 333 17 | 160 00 | 302 95 | 320 00 | 330 33 | 291 23 | 322 39 | 15 16 | 44 36 | 49 99 | 594 63 | 3,001 37 |
| Provisions | 31 50 | 117 98 | 87 13 | 113 85 | 105 00 | 89 00 | 78 39 | 120 50 | 19 37 | 1 69 | | 30 68 | 795 09 |
| Fuel | 95 00 | | | 40 07 | | | | | 147 27 | | | 218 44 | 500 78 |
| Stores and equipment | 46 69 | 4 00 | 84 40 | 37 47 | 54 92 | | 81 31 | | | | | 154 10 | 462 89 |
| Contingencies | | 21 00 | 8 70 | 2 70 | 3 60 | 2 40 | 37 58 | 36 25 | 32 55 | | | 170 56 | 315 34 |
| Water | | | | | | | | | | | | | |
| Pilotage and towage | | | | | | | | | | | | | |
| Wharfage | | | | | | | | | | | | | 700 00 |
| Rental hired tugs | 700 00 | | | | | | | | | | | | |
| Repairs (inc. all items charged to D.V rep'rs) | 460 82 | 150 00 | 637 23 | 287 91 | 188 03 | 26 04 | 72 14 | | 648 00 | 380 45 | 544 84 | 239 57 | 3,635 03 |
| Repairs—Extraordin'y | | | | | | | | | | | | | |
| Totals | 1,570 17 | 627 15 | 977 46 | 784 95 | 671 55 | 447 77 | 560 65 | 479 14 | 862 35 | 426 50 | 594 83 | 1,407 98 | 9,410 50 |

### EXPENDITURE INCURRED WORKING AT:

| | St. Lambert, Que | Riv. des Prairies, Que | | | | | | Totals. |
|---|---|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | | | | | | $ cts. |
| Wages—Dredge and departmental tugs | 316 03 | 2,685 34 | | | | | | 3,001 37 |
| Provisions—Dredge and departmental tugs | 83 72 | 711 37 | | | | | | 795 09 |
| Fuel—Dredge and departmental tugs | 52 73 | 448 05 | | | | | | 500 78 |
| Stores and equipment—Dredge and departmental tugs | 48 74 | 414 15 | | | | | | 462 89 |
| Contingencies—Dredge and departmental tugs | 33 20 | 282 14 | | | | | | 315 34 |

| | | |

## ONTARIO AND QUEBEC—*Continued.*

### Departmental Dredge 'Ottawa,' and Plant in Attendance.

| | April. | May. | June. | July. | August. | September. | October. | November. | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c.yds | | 11,266 | 24,404 | 19,964 | 4,760 | 1,458 | 2,176 | 7,686 | | | | | 71,714 |
| Kind of material | | Sand | Sand, clay | Sand | Hard-pan, boulders | Hard-pan, boulders. | Hard-pan, rock, boulders. | Rock, sand, clay. | | | | | |
| Total possible dredging time | | H. M. 186 00 | H. M. 250 00 | H. M. 270 00 | H. M. 270 00 | H. M. 250 00 | H. M. 270 00 | H. M. 170 00 | | | | | H. M. 1,666 00 |
| Hours actually dredging | | 68 00 | 166 30 | 138 00 | 99 00 | 50 00 | 45 00 | 58 00 | | | | | 624 30 |
| Per hour, actually dredging.....c. yds | | 165 00 | 147 00 | 145 00 | 48 00 | 29 00 | 48 00 | 132 00 | | | | | 115 00 |

### Details of Expenditure.

| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | 843 51 | 972 09 | 1,076 84 | 832 11 | 979 03 | 642 53 | 1,030 66 | 993 33 | 204 20 | 563 42 | 245 16 | 891 90 | 9,274 78 |
| Provisions | 273 16 | 341 50 | 322 00 | 273 85 | 319 80 | 200 00 | 329 03 | 335 65 | 11 13 | 154 35 | | 147 58 | 2,708 05 |
| Fuel | | | 1,629 36 | 596 17 | | 1,730 80 | 70 74 | 308 57 | | 1,763 08 | | 35 03 | 6,133 75 |
| Stores and equipment | 48 25 | 23 65 | 549 30 | 274 27 | 219 76 | 372 84 | 184 58 | 188 27 | 4 07 | 8 10 | | 312 78 | 2,185 87 |
| Contingencies | 18 46 | 8 68 | 405 63 | | 28 48 | | 10 00 | 45 49 | 39 00 | 49 70 | | 171 41 | 776 85 |
| Water | | | | | | | 155 20 | 6 40 | | | | | 161 60 |
| Pilotage and towage | | | | | | 133 00 | | | 5 00 | | | | 13 00 |
| Wharfage | | | | | | | | | | | | | |
| Rental hired tugs | | | | | | | | | | | | | 125 00 |
| Repairs (inc. all items charged to D.V.rep'rs) | 955 26 | | 2,443 34 | 1,336 69 | 1,214 63 | 758 48 | 60 55 | 269 26 | 807 09 | 3 18 | 446 07 | 632 67 | 8,927 22 |
| Repairs—Extraordin'y | | | | | | | | | | | | | |
| Totals | 2,138 64 | 1,345 92 | 6,426 47 | 3,313 09 | 2,761 70 | 3,837 65 | 1,840 76 | 2,146 97 | 1,070 49 | 2,541 83 | 691 23 | 2,191 37 | 30,306 12 |

### Expenditure Incurred Working at:

| | Batiscan, Que. | Baie St. Paul, Que. | Quebec, Que. | | | | | Totals. |
|---|---|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | $ cts. | | | | | |
| Wages—Dredge and departmental tugs | 5,532 19 | 2,599 02 | 1,143 57 | | | | | 9,274 78 |
| Provisions—Dredge and departmental tugs | 1,615 29 | 758 86 | 333 90 | | | | | 2,708 05 |
| Fuel—Dredge and departmental tugs | 3,658 64 | 1,178 83 | 756 28 | | | | | 6,133 75 |
| Stores and equipment—Dredge and departmental tugs | 1,303 82 | 612 53 | 269 52 | | | | | 2,185 87 |
| Contingencies—Dredge and departmental tugs | 463 37 | 217 69 | 95 79 | | | | | 776 85 |
| Water—Dredge and departmental tugs | 96 39 | 45 28 | 19 93 | | | | | 161 60 |
| Pilotage and towage—Dredge and departmental tugs | 7 76 | 3 64 | 1 60 | | | | | 13 00 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Wharfage—Dredge and departmental tugs | | | | | | | | | |
| Repairs—Dredge and departmental tugs | 5,324 89 | 2,501 63 | 1,100 70 | | | | | | 8,927 22 |
| Repairs—extraordinary—Dredge and departmental tugs | | | | | | | | | |
| Rental of hired tugs | | 125 00 | | | | | | | 125 00 |
| Total expenditure—Dredge and departmental tugs | 18,002 35 | 8,457 48 | 3,721 29 | | | | | | 30,181 12 |
| Total expenditure—Hired tugs | | 125 00 | | | | | | | 125 00 |
| Total—complete expenditure | 18,002 35 | 8,582 48 | 3,721 29 | | | | | | 30,306 12 |
| Cubic yards removed | 55,634 | 6,860 | 9,220 | | | | | | 71,714 |
| Cost per cubic yard (calculated from total expenditure) | 32·35 cts. | $1.25 | 40·36 cts. | | | | | | 42·25 cts. |
| Cost per hour actually dredging | $48.32 | 1749·04 | $48.32 | | | | | | $48.54 |
| Kind of material | Sand & clay. | Hardpan, boulders. | Sand, clay, rocks. | | | | | | |
| Work commenced | May 11th | August 3rd | October 28th | | | | | | |
| Work completed | July 23rd | October 14th. | Nov. 20th | | | | | | |

## DISTRIBUTION OF TIME IN HOURS.

| | H | M | % of total. | H | M | % of total. | H | M | % of total. | % of total. | % of total. | % of total. | % of total. | H | M | % of total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost by storms and weather | 31 | 30 | 4·9 | 108 | 00 | 15·0 | 73 | 00 | 23·6 | | | | | 212 | 30 | 13·6 |
| " repairs | 73 | 30 | 11·6 | 216 | 00 | 30·0 | 16 | 00 | 5·2 | | | | | 305 | 30 | 18·4 |
| " coaling | 29 | 00 | 4·6 | 28 | 00 | 3·9 | 27 | 00 | 8·7 | | | | | 84 | 00 | 5·2 |
| " watering | | | | | | | | | | | | | | | | |
| " tide and current | 2 | 00 | 0·3 | 147 | 00 | 20·4 | 38 | 00 | 12·3 | | | | | 187 | 00 | 11·7 |
| " cleaning plant | 4 | 00 | 0·6 | 2 | 00 | 0·3 | 8 | 00 | 2·6 | | | | | 14 | 00 | 0·7 |
| " cleaning boilers | 2 | 00 | 0·3 | | | | | | | | | | | 2 | 00 | 0·2 |
| " inspecting boilers | | | | | | | | | | | | | | | | |
| " holidays | 10 | 00 | 1·6 | | | | 10 | 00 | 3·2 | | | | | 20 | 00 | 1·2 |
| " waiting on scows or tug | 81 | 00 | 12·8 | 13 | 00 | 1·8 | 23 | 00 | 7·4 | | | | | 117 | 00 | 6·0 |
| " waiting orders | | | | | | | 10 | 00 | 3·2 | | | | | 10 | 00 | 0·6 |
| " towing and preparing for work | 7 | 00 | 1·1 | 31 | 00 | 4·3 | 20 | 00 | 6·5 | | | | | 58 | 00 | 3·6 |
| " moving dredge and changing cut | 16 | 30 | 2·6 | | | | 2 | 00 | 0·6 | | | | | 18 | 30 | 1·1 |
| " short of coal or supplies | 7 | 00 | 1·1 | | | | | | | | | | | 7 | 00 | 0·4 |
| " miscellaneous | | | | | | | 6 | 00 | 1·9 | | | | | 6 | 00 | 0·3 |
| Total lost time | 263 | 30 | 41·5 | 545 | 00 | 75·7 | 233 | 00 | 75·2 | | | | | 1041 | 30 | 63·0 |
| Time actually dredging— | 372 | 30 | 58·5 | 175 | 00 | 24·3 | 77 | 00 | 24·8 | | | | | | | |
| | | | | | | | | | | | | | | 624 | 30 | 37·0 |
| Possible dredging time | 636 | 00 | 100 | 720 | 00 | 100 | 310 | 00 | 100 | | | | | 1666 | 00 | 100 |

*Names of Departmental Tugs included in expenditure, dates between which employed, and localities*:—Tug *Monitor*, all season.

*Names of Rented Tugs included in expenditure, and dates between which employed, and localities*:—May 18, tug owned by John S. Thom, Quebec; July 24, tug owned by John S. Thom, towing dredge from Batiscan to Quebec; October 24, tug *Belle*, at Quebec.

*Date Dredge put in commission*—May 8, *Dredge laid up for winter at* Quebec, Que., December 14.

## Departmental Dredge 'Ontario,' and Plant in Attendance.

Departmental Dredge 'Ontario,' and Plant in Attendanc.

| —— | April. | May. | June. | July. | August. | September. | October. | November | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c.yds | | 1,200 | 9,400 | 11,350 | 10,000 | 6,750 | 5,490 | 3,000 | 3,150 | | | | 50,340 |
| Kind of material | | Sand, clay | Sand, clay | Clay, gravel | Gravel, sand clay, silt. | Clay, silt, sand | Sand, clay, wreck of barge. | Wreck of barge, clay. | Clay | | | | |
| Total possible dredging time | | H. M. 40 00 | H. M. 250 00 | H. M. 270 00 | H. M. 270 00 | H. M. 250 00 | H. M. 270 00 | H. M. 260 00 | H. M. 60 00 | | | | H. M. 1,670 00 |
| Hours actually dredging | | 23 00 | 108 30 | 168 00 | 139 00 | 89 30 | 76 30 | 48 00 | 40 00 | | | | 692 30 |
| Per hour, actually dredging.....c. yds. | | 52 | 87 | 67 | 72 | 76 | 72 | 63 | 79 | | | | 73 |

## DETAILS OF EXPENDITURE.

| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | 396 50 | 486 37 | 535 00 | 571 25 | 519 19 | 510 69 | 493 22 | 442 22 | 272 50 | 149 51 | 50 00 | 563 55 | 4,990 00 |
| Provisions | 142 00 | 168 26 | 165 00 | 168 25 | 158 71 | 114 85 | 31 94 | 241 41 | 86 36 | 10 41 | 153 23 | 194 02 | 1,634 44 |
| Fuel | | 89 40 | 122 80 | 117 00 | 124 75 | 385 23 | 53 92 | 144 90 | 121 82 | | | | 1,159 82 |
| Stores and equipment | 3 90 | | 134 15 | 25 07 | 40 30 | 35 97 | 105 23 | 54 53 | 7 73 | 134 44 | | 89 79 | 631 08 |
| Contingencies | | | 27 66 | 75 00 | 11 15 | 5 75 | 13 37 | 17 85 | 63 82 | 24 85 | | 283 37 | 522 82 |
| Water | | | | | | | | | | | | | |
| Pilotage and towage | | | | | | | | | | | | | |
| Wharfage | | | | | | | | | | | | | |
| Rental hired tugs | | | | | 22 00 | | 204 00 | | | | | 130 39 | 356 39 |
| Repairs (inc. all items charged to D.V. rep'rs) | 288 91 | 309 92 | 101 26 | 2,348 96 | 158 06 | 8 00 | 127 29 | 167 25 | 103 25 | 65 18 | | 21 60 | 3,699 68 |
| Repairs—Extraordinary | | | | | | | | | | | | | |
| Totals | 831 31 | 1,053 95 | 1,085 87 | 3,305 53 | 1,034 16 | 1,060 49 | 1,028 97 | 1,068 16 | 655 48 | 384 36 | 203 23 | 1,282 72 | 12,994 23 |

## EXPENDITURE INCURRED WORKING AT:

| —— | Riv. Thames | Sarnia. | Courtright. | Wallaceburg. | Belle River. | Windsor. | | Totals. |
|---|---|---|---|---|---|---|---|---|
| | $ cts | $ cts | $ cts | $ cts | $ cts | $ cts. | $ cts. | $ cts |
| Wages—Dredge and departmental tugs | 1,041 24 | 1,714 98 | 713 37 | 241 38 | 673 74 | 605 29 | | 4,990 00 |
| Provisions—Dredge and departmental tugs | 341 05 | 561 72 | 233 66 | 79 07 | 220 68 | 198 26 | | 1,634 44 |
| Fuel—Dredge and departmental tugs | 242 01 | 398 60 | 165 81 | 56 11 | 156 60 | 140 69 | | 1,159 82 |
| Stores and equipment—Dredge and departmental tugs | 131 68 | 216 89 | 90 22 | 30 53 | 85 21 | 76 55 | | 631 08 |
| Contingencies—Dredge and departmental tugs | 109 09 | 179 69 | 74 74 | 25 30 | 70 58 | 63 42 | | 522 82 |
| Water—Dredge and departmental tugs | | | | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Pilotage and towage—Dredge and departmental tugs | | | | | | | |
| Wharfage—Dredge and departmental tugs | | | | | | | |
| Repairs—Dredge and departmental tugs | 771 99 | 1,271 52 | 528 91 | 178 97 | 499 53 | 448 76 | 3,699 68 |
| Repairs, extraordinary—Dredge and departmental tugs | | | | | | | |
| Rental of hired tugs | 22 00 | | | | 204 00 | 130 39 | 356 39 |
| Total expenditure—Dredge and departmental tugs | 2,637 06 | 4,343 40 | 1,806 71 | 611 36 | 1,706 34 | 1,532 97 | 12,637 84 |
| Total expenditure—Hired tugs | 22 00 | | | | 204 00 | 130 39 | 356 39 |
| Total—complete expenditure | 2,659 06 | 4,343 40 | 1,806 71 | 611 36 | 1,910 34 | 1,663 36 | 12,994 23 |
| Cubic yards removed | 10,400 | 15,850 | 9,050 | 1,900 | 8,090 | 5,050 | 50,340 |
| Cost per cu. yd. (calculated from total expenditure) | c.25·57 | c.27·40 | c.19·96 | c 32·17 | c.23·61 | c 32·93 | c 25·81 |
| Cost per hour actually dredging | $18·40 | $18·23 | $18·26 | $18·24 | $20·43 | $19·80 | $18·76 |
| Kind of material | Sand, clay | Sand, clay, gravel. | Clay | Silt, sand | Sand, clay | Clay, wreck of barge. | |
| Work commenced | May 28-Sept.9 | June 29th | Aug. 19-Dec.3 | Aug. 29th. | Sept. 18th. | Oct. 24th | |
| Work completed | June 22-Sept11 | Aug. 15th. | Aug. 27-Dec.7 | Sept. 4th. | Oct. 8th. | Nov. 15th | |

DISTRIBUTION OF TIME IN HOURS

| | H | M | % of total. | H | M | % of total. | H | M | % of total. | H | M | % of total. | H | M | % of total. | H | M | % of total. | H | M | % of total. | H | M | % of total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost by storms and weather | 119 | 30 | 41·2 | 20 | 00 | 4·3 | | | | | | | 34 | 00 | 14·8 | 25 | 00 | 5·9 | | | | 198 | 00 | 11·9 |
| " repairs | 4 | 00 | 1·4 | 80 | 00 | 17·1 | 20 | 00 | 10·5 | | | | 39 | 00 | 17·0 | 89 | 00 | 21·2 | | | | 232 | 00 | 13·9 |
| " coaling | | | | 14 | 00 | 3·0 | 7 | 00 | 3·7 | 5 | 00 | 7·2 | 14 | 00 | 6·1 | 5 | 00 | 1·2 | | | | 45 | 00 | 2·7 |
| " watering | | | | | | | | | | | | | | | | | | | | | | | | |
| " tide and current | | | | 10 | 00 | 2·1 | | | | | | | | | | | | | | | | 10 | 00 | 0·6 |
| " cleaning plant | | | | 1 | 00 | 0·2 | 1 | 00 | 0·5 | 1 | 00 | 1·4 | | | | | | | | | | 3 | 00 | 0·2 |
| " cleaning boilers | | | | | | | | | | | | | | | | 10 | 00 | 2·4 | | | | 10 | 00 | ·6 |
| " inspecting boilers | | | | 5 | 00 | 1·1 | | | | | | | | | | 15 | 00 | 3·6 | | | | 20 | 00 | 1·2 |
| " holidays | | | | 10 | 00 | 2·1 | | | | 10 | 00 | 14·3 | | | | 10 | 00 | 2·4 | | | | 30 | 00 | 1·8 |
| " waiting on scows or tug | | | | 6 | 00 | 1·3 | | | | 1 | 00 | 1·4 | 12 | 30 | 5·4 | 5 | 00 | 1·2 | | | | 24 | 30 | 1·5 |
| " waiting orders | | | | 1 | 00 | 0·2 | | | | | | | | | | | | | | | | 1 | 00 | |
| " towing and preparing for work | 20 | 00 | 6·9 | 50 | 00 | 10·6 | 50 | 00 | 26·4 | 5 | 00 | 7·2 | 15 | 00 | 6·5 | 10 | 00 | 2·4 | | | | 150 | 00 | 9·0 |
| " moving dredge and changing cut | 2 | 00 | 0·7 | 13 | 00 | 2·8 | 5 | 00 | 2·6 | 4 | 30 | 6·4 | 2 | 00 | 0·9 | 24 | 00 | 5·7 | | | | 50 | 30 | 3·0 |
| " short of coal or supplies | | | | | | | 3 | 00 | 1·6 | | | | | | | | | | | | | 3 | 00 | 0·2 |
| " miscellaneous | | | | 22 | 00 | 4·7 | 5 | 00 | 2·6 | 10 | 00 | 14·3 | 20 | 00 | 8·7 | 143 | 00 | 34·0 | | | | 200 | 00 | 11·9 |
| Total lost time | 145 | 30 | 50·2 | 232 | 00 | 49·5 | 91 | 00 | 47·9 | 36 | 30 | 52·2 | 136 | 30 | 59·4 | 336 | 00 | 80·0 | | | | 977 | 30 | 58·5 |
| Time actually dredging | 144 | 30 | 49·8 | 238 | 00 | 50·5 | 99 | 00 | 52·1 | 33 | 30 | 47·8 | 93 | 30 | 40·6 | 84 | 00 | 20·0 | | | | 692 | 30 | 41·5 |
| Possible dredging time | 290 | 00 | 100 | 470 | 00 | 100 | 190 | 00 | 100 | 70 | 00 | 100 | 230 | 00 | 100 | 420 | 00 | 100 | | | | 1670 | 00 | 100 |

*Names of Departmental tugs included in expenditure, dates between which employed, and localities:*—Tug *St. Paul*, May 27 to Sept. 10, river Thames, Sarnia, Courtright; Oct. 10 to Dec. 7, Belle River, Windsor and Courtright.

*Names of Rented Tugs included in expenditure, dates between which employed, and localities:*—Tug *W. Y. Rooney*, May 14, River Thames; Sept. 11 to 30, Belle river; Oct. 1 to 9, Windsor, Ont.

*Date Dredge put in Commission.*—May 21, 1912. *Dredge laid up for winter at* Sarnia, Ont., Dec. 20, 1912.

*Remarks.*—Miscellaneous time: Jeanette's creek, short of crew; Windsor, blowing up of crib work and pulling piles, and short of crew.

## ONTARIO AND QUEBEC—*Continued.*

### Departmental Dredge 'Progress,' and Plant in Attendance.

| | April | May. | June. | July | August. | September. | October. | November. | December. | January | February. | March. | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c.yds | | 12,526 | 10,927 | 22,808 | 23,897 | 24,233 | 8,502 | 400 | | | | | 103,293 |
| Kind of material | | Gravel boulders sand and clay. | Gravel, boulders, and clay | Clay and boulders. | Clay and boulders. | Clay and boulders | Clay and boulders. | Clay | | | | | |
| Total possible dredging time | | H. M. 228 00 | H. M. 250 00 | H. M. 270 00 | H. M. 270 00 | H. M. 250 00 | H. M. 270 00 | H. M. 30 00 | | | | | H. M. 1,568 00 |
| Hours actually dredging | | 122 00 | 97 00 | 164 00 | 214 00 | 215 00 | 74 00 | 10 00 | | | | | 896 00 |
| Per hour, actually dredging.....c. yds. | | 102 | 112 | 139 | 112 | 112 | 114 | 40 | | | | | 115 |

### DETAILS OF EXPENDITURE.

| | $ cts. | $ cts | $ cts | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts | $ cts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | 535 32 | 1,162 02 | 843 56 | 1,062 03 | 1,186 17 | 1,145 00 | 1,154 20 | 563 75 | 52 00 | | 100 00 | 951 13 | 8,755 18 |
| Provisions | 89 67 | 435 46 | 250 88 | 348 38 | 360 00 | 360 00 | 365 95 | 167 50 | | | | 213 90 | 2,591 74 |
| Fuel | 247 00 | | | | 2,082 89 | 603 84 | 1,207 04 | 27 00 | -172 43 | 182 78 | 165 31 | 167 82 | 4,856 11 |
| Stores and equipment | 187 59 | 240 77 | 435 39 | 63 72 | 311 31 | | 196 09 | 4 52 | 12 28 | 31 70 | | 285 29 | 1,768 66 |
| Contingencies | 24 63 | 14 50 | 76 25 | 0 35 | 28 05 | 9 10 | 11 05 | 6 55 | 117 45 | 11 25 | | 208 45 | 567 63 |
| Water | | | | 35 00 | 100 10 | 122 85 | 113 05 | 25 90 | | | 51 10 | | 448 00 |
| Pilotage and towage | | | | | 15 00 | | | | | | | | |
| Wharfage | | | | | | | | | | | | | |
| Rental hired tugs | | | | | | | | | | | | | |
| Repairs (inc. all items charged to D.V rep'r) | 403 94 | 173 47 | 2,487 15 | 250 89 | 212 90 | 430 84 | 834 21 | 540 60 | 1,097 25 | 304 69 | 1,520 95 | 928 05 | 9,184 94 |
| Repairs—Extraordin'y | | | | | | | | | | | | | |
| Totals | 1,488 15 | 2,026 22 | 4,093 23 | 1,760 37 | 4,296 42 | 2,671 63 | 3,881 59 | 1,395 82 | 1,451 41 | 530 42 | 1,837 36 | 2,754 64 | 28,187 26 |

### EXPENDITURE INCURRED WORKING AT:

| | Longueuil, Que. | Rimouski, Que. | Quebec, Que. | | | | | Totals. |
|---|---|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | $ cts. | | | | | $ cts |
| Wages—Dredge and departmental tugs | 1,778 40 | 6,879 07 | 97 71 | | | | | 8,755 18 |
| Provisions—Dredge and departmental tugs | 526 45 | 2,036 37 | 28 92 | | | | | 2,591 74 |
| Fuel—Dredge and departmental tugs | 986 40 | 3,815 52 | 54 19 | | | | | 4,856 11 |
| Stores and equipment—Dredge and departmental tugs | 359 26 | 1,389 66 | 19 74 | | | | | 1,768 66 |
| Contingencies—Dredge and departmental tugs | 115 30 | 446 00 | 6 33 | | | | | 567 63 |
| Water—Dredge and departmental tugs | 91 00 | 352 00 | 5 00 | | | | | 448 00 |
| Pilotage and towage—Dredge and departmental tugs | 3 04 | 11 78 | 0 18 | | | | | 15 00 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Wharfage—Dredge and departmental tugs | | | | | | | | | |
| Repairs—Dredge and departmental tugs | 1,865 69 | 7,216 73 | 102 52 | | | | | | 9,184 94 |
| Repairs, extraordinary—Dredge and departmental tugs | | | | | | | | | |
| Rental of hired tugs | | | | | | | | | |
| Total expenditure—Dredge and departmental tugs | 5,725 54 | 22,147 13 | 314 59 | | | | | | 28,187 26 |
| Total expenditure—Hired tugs | | | | | | | | | |
| Total—complete expenditure | 5,725 54 | 22,147 13 | 314 59 | | | | | | 28,187 26 |
| Cubic yards removed | 18,832 | 84,061 | 400 | | | | | | 103,293 |
| Cost per cubic yard (calculated from total expenditure) | 30·40 cts. | 26·34 cts. | 78·64 cts. | | | | | | 27·28 cts. |
| Cost per hour actually dredging | $31.45 | $31.45 | $31.45 | | | | | | $31.45 |
| Kind of material | Gravel, boulders. sand, and clay. | Clay and boulders. | Clay and boulders. | | | | | | |
| Work commenced | May 7 | June 25 | Nov. 4 | | | | | | |
| Work completed | June 10 | Oct. 18 | Nov. 4 | | | | | | |

## DISTRIBUTION OF TIME IN HOURS.

| | H M | % of total. | H M | % of total | H M | % o total. | | % of total. | | % of total. | | % of total. | | % of total. | | % of total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost by storms and weather | 20 00 | 5·6 | 159 00 | 14·7 | | | | | | | | | | | 179 00 | 11·5 |
| " repairs | 105 00 | 29·4 | 55 00 | 5·1 | 7 00 | 5·4 | | | | | | | | | 167 00 | 10·6 |
| " coaling | 12 00 | 3·4 | 56 00 | 5·2 | 4 00 | 3·1 | | | | | | | | | 72 00 | 4·6 |
| " watering | | | | | | | | | | | | | | | | |
| " tide and current | | | | | 10 00 | 7·7 | | | | | | | | | 10 00 | 0·6 |
| " cleaning plant | 6 00 | 1·7 | 8 00 | 0·7 | | | | | | | | | | | 14 00 | 0·9 |
| " cleaning boilers | | | 10 00 | 0·9 | 10 00 | 7·7 | | | | | | | | | 20 00 | 1·3 |
| " inspecting boilers | 10 00 | 2·8 | | | | | | | | | | | | | 10 00 | 0·6 |
| " holidays | | | | | | | | | | | | | | | | |
| " waiting on scows or tug | 0 30 | | 7 00 | 0·6 | | | | | | | | | | | 7 30 | 0·5 |
| " waiting orders | | | | | | | | | | | | | | | | |
| " towing and preparing for work | 8 00 | 2·2 | 50 00 | 4·7 | 86 00 | 66·1 | | | | | | | | | 144 00 | 9·2 |
| " moving dredge and changing cut | 10 00 | 2·8 | | | 3 00 | 2·3 | | | | | | | | | 13 00 | 0·8 |
| " short of coal or supplies | | | | | | | | | | | | | | | | |
| " fog | | | 31 00 | 2·9 | | | | | | | | | | | 31 00 | 1·9 |
| " miscellaneous | 4 30 | 1·3 | | | | | | | | | | | | | 4 30 | 0·3 |
| Total lost time | 176 00 | 49·2 | 376 00 | 34·8 | 120 00 | 92·3 | | | | | | | | | 672 00 | 42·8 |
| Time actually dredging | 182 00 | 50·8 | 704 00 | 65·3 | 10 00 | 7·7 | | | | | | | | | 896 00 | 57·2 |
| Possible dredging time | 358 00 | 100 | 1080 00 | 100 | 130 00 | 100 | | | | | | | | | 1568 00 | 100 |

*Names of Departmental Tugs included in expenditure, dates between which employed, and localities:*—Tug *Witherbee*, all season.
*Names of Rented Tugs included in expenditure, dates between which employed, and localities:*—June 29, tug *Alma* Longueuil.
*Date Dredge put in commission*—3rd May, 1912. *Dredge laid up for winter at* Levis dry dock Quebec, 30th Nov., 1912.

## ONTARIO AND QUEBEC—*Continued.*

### Departmental Dredge 'Quebec,' and Plant in Attendance.

| | April. | May. | June. | July. | August. | September. | October. | November. | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c.yds | 6,600 | 21,580 | 37,185 | 41,119 | 39,354 | 28,364 | 40,916 | 36,360 | 5,880 | | | | 257,358 |
| Kind of material | Gumbo,silt. | Slush, mud, clay. | Clay | Clay, gumbo, hardpan. | Gumbo, clay, mud | Gumbo, slush,clay | Clay, gumbo, slush, loam. | Clay, mud, loam. | Slush, mud | | | | |
| Total possible dredging time | H. M. 130 00 | H. M. 270 00 | H. M. 250 00 | H. M. 270 00 | H. M. 270 00 | H. M. 250 00 | H. M. 270 00 | H. M. 260 00 | H. M. 100 00 | | | | H. M. 2,070 00 |
| Hours actually dredging | 28 00 | 72 30 | 135 00 | 162 00 | 155 45 | 108 00 | 179 15 | 149 00 | 24 30 | | | | 1,014 00 |
| Per hour, actually dredging.....c. yds. | 235 00 | 297 00 | 277 00 | 252 00 | 252 00 | 263 00 | 228 00 | 244 00 | 240 00 | | | | 253 00 |

### DETAILS OF EXPENDITURE.

| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts | $ cts. | $ cts. | $ cts. | $ cst. | $ cts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | 1,132 50 | 1,159 67 | 1,160 05 | 1,162 62 | 1,192 33 | 669 81 | 1,291 16 | 1,205 49 | 1,139 98 | 135 36 | 50 00 | 1,396 88 | 11,695 85 |
| Provisions | 350 00 | 358 07 | 364 80 | 345 97 | 364 24 | 193 52 | 339 19 | 343 50 | 319 36 | 12 58 | | 249 68 | 3,240 91 |
| Fuel | | | 954 18 | 689 40 | 1,063 60 | 619 90 | 758 56 | 739 13 | 345 80 | 183 40 | 7 00 | 218 03 | 5,579 00 |
| Stores and equipment | 13 08 | 119 37 | 356 20 | 70 55 | 234 71 | 417 44 | 112 71 | 255 55 | 27 24 | 134 66 | 267 84 | 214 88 | 2,224 23 |
| Contingencies | 47 55 | | 65 92 | 12 01 | 16 90 | 6 16 | 32 09 | 17 46 | 58 12 | 7 15 | 16 06 | 277 32 | 556 74 |
| Water | | | | | | | | | | | | | |
| Pilotage and towage | | | | | | | | | | | | | |
| Wharfage | | | | | | | | | | | | | |
| Rental hired tugs | | | 894 20 | | | | | | | | | | 894 20 |
| Repairs (inc. all items charged to D.V.rep'rs) | 2,414 08 | 37 63 | 240 90 | 4 57 | 520 72 | 847 92 | 309 22 | 52 11 | 121 03 | 136 78 | 994 62 | 764 36 | 6,443 94 |
| Repairs—Extraordin'y | | | | | | | | | | | | | |
| Totals | 3,957 21 | 1,674 74 | 4,036 25 | 2,285 12 | 3,392 50 | 2,754 75 | 2,842 93 | 2,613 24 | 2,011 53 | 609 93 | 1,335 52 | 3,121 15 | 30,634 87 |

### EXPENDITURE INCURRED WORKING AT:

| | Port Burwell. | Hamilton. | | | | | |
|---|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | | | | | $ cts. |
| Wages—Dredge and departmental tugs | 322 96 | 11,372 89 | | | | | 11,695 85 |
| Provisions—Dredge and departmental tugs | 89 49 | 3,151 42 | | | | | 3,240 91 |
| Fuel—Dredge and departmental tugs | 154 06 | 5,424 94 | | | | | 5,579 00 |
| Stores and equipment—Dredge and departmental tugs | 61 42 | 2,162 81 | | | | | 2,224 23 |
| Contingencies—Dredge and departmental tugs | 15 38 | 541 36 | | | | | 556 74 |
| Water—Dredge and departmental tugs | | | | | | | |
| Pilotage and towage—Dredge and departmental tugs | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Wharfage—Dredge and departmenta tugs | | | | | | | | | |
| Repairs—Dredge and departmental tugs | 177 94 | 6,266 00 | | | | | | | 6,443 94 |
| Repairs, extraordinary—Dredge and departmental tugs | | | | | | | | | |
| Rental of hired tugs | | 894 20 | | | | | | | 894 20 |
| Total expenditure—Dredge and departmental tugs | 821 25 | 28,919 42 | | | | | | | 29,740 67 |
| Total expenditure—Hired tugs | | 894 20 | | | | | | | 894 02 |
| Total—complete expenditure | 821 25 | 29,813 62 | | | | | | | 30,634 87 |
| Cubic yards removed | 6,600 | 250,758 | | | | | | | 257,358 |
| Cost per cu. yd. (calculated from total expenditure) | $0·124 | $0·118 | | | | | | | $0·119 |
| Cost per hour actually dredging | $29·33 | $30·23 | | | | | | | $30·21 |
| Kind of material | Gumbo & silt | Slush, mud, clay, gumbo, hardpan and loam. | | | | | | | |
| Work commenced | April 16th. | May 6th. | | | | | | | |
| Work completed | April 25th. | Dec. 12th. | | | | | | | |

DISTRIBUTION OF TIME IN HOURS.

| | H | M | % of total. | H | M | % of total. | % of total. | % of total. | % of total. | % of total. | % of total. | H | M | % of total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost by storms and weather | 57 | 00 | 51·7 | 174 | 15 | 8·9 | | | | | | 231 | 15 | 11·1 |
| " repairs | | | | 272 | 15 | 13·9 | | | | | | 272 | 15 | 13·2 |
| " coaling | | | | 52 | 00 | 2·6 | | | | | | 52 | 00 | 2·5 |
| " watering | | | | | | | | | | | | | | |
| " tide and current | | | | | | | | | | | | | | |
| " cleaning plant | | | | 29 | 30 | 1·5 | | | | | | 29 | 30 | 1·4 |
| " cleaning boilers | | | | 10 | 00 | 0·5 | | | | | | 10 | 00 | 0·5 |
| " inspecting boilers | | | | 17 | 00 | 0·6 | | | | | | 17 | 00 | 0·8 |
| " holidays | | | | 60 | 00 | 3·6 | | | | | | 60 | 00 | 3·0 |
| " waiting on scows or tug | 4 | 00 | 3·6 | 112 | 00 | 5·7 | | | | | | 116 | 00 | 5·6 |
| " waiting orders | | | | | | | | | | | | | | |
| " towing and preparing for work | 10 | 00 | 9·1 | 77 | 00 | 3·9 | | | | | | 87 | 00 | 4·2 |
| " moving dredge and changing cut | 7 | 00 | 6·5 | 103 | 00 | 5·2 | | | | | | 110 | 00 | 5·3 |
| " short of coal or supplies | | | | 5 | 00 | 0·2 | | | | | | 5 | 00 | 0·2 |
| " miscellaneous | 4 | 00 | 3·6 | 62 | 00 | 3·1 | | | | | | 66 | 00 | 3·2 |
| Total lost time | 82 | 00 | 74·5 | 974 | 00 | 49·7 | | | | | | 1056 | 00 | 51·0 |
| Time actually dredging | 28 | 00 | 25·5 | 986 | 00 | 50·3 | | | | | | 1014 | 00 | 49·0 |
| Possible dredging time | 110 | 00 | 100 | 1960 | 00 | 100 | | | | | | 2070 | 00 | 100 |

*Names of Departmental Tugs included in expenditure, dates between which employed, and localities:*—Tug *Peel*, all season.
*Names of Rented Tugs included in expenditure, dates between which employed, and localities:*—Tug *Winner*, April 30; May 4, tug owned by Welland Canal Tug Company, towing to Hamilton.
*Date Dredge put in commission*—April 13. *Dredge laid up for winter at* Hamilton Ont., Dec. 23, 1912.
*Remarks:*—Miscellaneous time at Hamilton, Pulling Sheet piling; private work for J. Battle.

## ONTARIO AND QUEBEC—*Continued.*

### Departmental Dredge 'Queen,' and Plant in Attendance.

| | April. | May. | June. | July. | August. | September. | October. | November. | December. | January. | February. | March. | Totals |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c.yds | | 1,054 | 5,069 | 2,479 | 7,141 | 2,923 | 4,884 | 629 | | | | | 24,179 |
| Kind of material | | Clay. | Clay. | Clay, sand. | Clay, sand. | Clay. | Clay. | Clay. | | | | | |
| Total possible dredging time | | H. M. 90 00 | H. M. 250 00 | H. M. 270 00 | H. M. 270 00 | H. M. 250 00 | H. M. 270 00 | H. M. 130 00 | | | | | H. M. 1,530 00 |
| Hours actually dredging | | 50 00 | 175 00 | 89 00 | 218 00 | 104 00 | 169 00 | 37 00 | | | | | 842 00 |
| Per hour, actually dredging c. yds | | 22 00 | 29 00 | 28 00 | 33 00 | 28 00 | 29 00 | 17 00 | | | | | 28 00 |

### DETAILS OF EXPENDITURE.

| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | 377 66 | 535 00 | 535 00 | 535 00 | 535 00 | 231 83 | 523 70 | 535 00 | 34 19 | 69 68 | | 341 21 | 4,253 27 |
| Provisions | 54 00 | 170 32 | 180 00 | 182 25 | 180 00 | 78 00 | 175 16 | 180 00 | 9 68 | 58 25 | | | 1,267 66 |
| Fuel | | | 477 20 | | | 768 66 | | | 417 79 | 45 33 | | 2 03 | 1,711 01 |
| Stores and equipment | | 34 12 | 4 50 | 11 68 | 55 51 | | 4 15 | 6 00 | | 23 57 | | 196 65 | 336 18 |
| Contingencies | 4 32 | 51 00 | 33 00 | 4 60 | 3 00 | | | | 41 31 | | | 117 41 | 254 64 |
| Water | | | | | | | | | | | | | |
| Pilotage and towage | | | | | | | | | | | | | |
| Wharfage | | | | | | | | | | | | | |
| Rental hired tugs | | | | | | | 165 00 | 15 00 | | | | | 180 00 |
| Repairs (inc. all items charged to D.V.rep'rs) | 76 79 | 11 32 | 24 51 | 5 05 | 12 10 | 801 38 | 71 51 | 117 70 | 100 26 | 734 94 | 432 59 | 601 77 | 2,989 92 |
| Repairs-Extraordinary | | | | | | | | | | | | | |
| Totals | 512 77 | 801 76 | 1,254 21 | 738 58 | 785 61 | 1,879 97 | 939 52 | 853 70 | 603 23 | 931 77 | 432 59 | 1,259 07 | 10,992 68 |

### EXPENDITURE INCURRED WORKING AT

| | Haileybury, Ont. | New Liskeard Ont. | | | | | Totals. |
|---|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | | | | | $ cts. |
| Wages—Dredge and departmental tugs | 3,023 25 | 1,230 02 | | | | | 4,253 27 |
| Provisions—Dredge and departmental tugs | 901 06 | 366 60 | | | | | 1,267 66 |
| Fuel—Dredge and departmental tugs | 1,216 20 | 494 81 | | | | | 1,711 01 |
| Stores and equipment—Dredge and departmental tugs | 238 96 | 97 22 | | | | | 336 18 |
| Contingencies—Dredge and departmental tugs | 181 00 | 73 64 | | | | | 254 64 |
| Water—Dredge and departmental tugs | | | | | | | |
| Pilotage and towage—Dredge and departmental tugs | | | | | | | |
| Wharfage—Dredge and departmental tugs | | | | | | | |
| Repairs—Dredge and departmental tugs | 2,125 26 | 864 66 | | | | | 2,989 92 |

| | | |

## ONTARIO AND QUEBEC—*Continued.*

### Departmental Dredge 'Richelieu' and Plant in Attendance.

| — | April. | May. | June. | July. | August. | September | October. | November | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c.yds | | 5,304 | 7,664 | 8,344 | 9,827 | 5,262 | 3,623 | 1,233 | | | | | 41,257 |
| Kind of material | | Clay, sand, stones. | Clay, sand.. | Clay. | Clay..... | Clay, sand, gravel, stones. | Stones, gravel, sand. | Sand, gravel | | | | | |
| Total possible dredging time | | H. M. 220 00 | H. M. 250 00 | H. M. 270 00 | H. M. 270 00 | H M 250 00 | H M 270 00 | H M 140 00 | | | | | H. M. 1,670 00 |
| Hours actually dredging | | 125 10 | 167 55 | 220 00 | 244 10 | 167 20 | 175 30 | 72 00 | | | | | 1,172 05 |
| Per hour, actually dredging.....c. yds. | | 42 | 46 | 38 | 40 | 31 | 20 | 17 | | | | | 35 |

### Details of Expenditure.

| | $ cts. | $ cts. | $ cts | $ cts | $ cts | $ cts | $ cts | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | 512 42 | 499 84 | 510 00 | 524 67 | 609 82 | 564 33 | 451 50 | 373 33 | 59 19 | 137 50 | 86 66 | 540 23 | 5,069 49 |
| Provisions | 165 00 | 160 65 | 165 00 | 165 00 | 162 13 | 173 60 | 149 28 | 36 60 | 189 50 | | | 77 54 | 1,444 30 |
| Fuel | | 156 20 | 159 27 | 123 07 | 195 89 | 203 90 | 41 77 | | 159 19 | 163 76 | 62 40 | 161 92 | 1,427 37 |
| Stores and equipment | | 492 70 | 53 83 | | 35 78 | 61 95 | 61 68 | | 14 08 | | 152 10 | 358 20 | 1,230 32 |
| Contingencies | 3 00 | | 13 00 | 10 75 | 37 10 | 15 72 | 6 65 | 29 85 | 53 22 | 3 55 | 4 40 | 141 81 | 322 05 |
| Water | | | | | | | | 18 00 | | | | | 18 00 |
| Pilotage and towage | | | | | | | | | | | | | |
| Wharfage | | | | | | | | | | | | | |
| Rental hired tugs | | | | | | | | | | | | | |
| Repairs (inc. all items charged to D.V. rep'rs) | 354 22 | | 45 85 | 41 38 | 3 20 | 523 87 | 304 55 | 242 82 | 161 98 | 122 83 | 317 58 | 749 17 | 2,867 45 |
| Repairs—Extraordinary | | | | | | | | | | | | | |
| Totals | 1,034 64 | 1,309 39 | 946 95 | 864 87 | 1,043 92 | 1,543 37 | 1,015 43 | 900 60 | 637 16 | 427 64 | 623 14 | 2,031 87 | 12,378 98 |

### Expenditure Incurred Working At:

| — | St. Johns, Que. | Iberville, Que. | St. Hilaire, Que. | Béloeil, Que. | St. Marc., Que. | St. Antoine, Que. | Lacolle, Que. | Totals. |
|---|---|---|---|---|---|---|---|---|
| | $ cts | $ cts | $ cts | $ cts | $ cts | $ cts | $ cts | $ cts |
| Wages—Dredge and departmental tugs | 331 60 | 134 08 | 659 59 | 13 70 | 498 48 | 2,138 82 | 1,293 22 | 5,069 49 |
| Provisions—Dredge and departmental tugs | 94 47 | 38 19 | 187 92 | 3 90 | 142 02 | 609 35 | 368 45 | 1,444 30 |
| Fuel—Dredge and departmental tugs | 93 37 | 37 75 | 185 72 | 3 85 | 140 36 | 602 20 | 364 12 | 1,427 37 |
| Stores and equipment—Dredge and departmental tugs | 80 47 | 32 55 | 160 08 | 3 32 | 120 97 | 519 07 | 313 86 | 1,230 32 |
| Contingencies—Dredge and departmental tugs | 21 06 | 8 52 | 41 90 | 87 | 31 67 | 135 87 | 82 16 | 322 05 |
| Water—Dredge and departmental tugs | | | | | | | 18 00 | 18 00 |
| Pilotage and towage—Dredge and departmental tugs | | | | | | | | |
| Wharfage—Dredge and departmental tugs | | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Repairs—Dredge and departmental tugs | 187 56 | 75 84 | 373 08 | 7 76 | 281 95 | 1,209 77 | 731 49 | 2,867 45 |
| Repairs, extraordinary—Dredge and departmental tugs | | | | | | | | |
| Rental of hired tugs | | | | | | | | |
| Total expenditure—Dredge and departmental tugs | 808 53 | 326 93 | 1,608 29 | 33 40 | 1,215 45 | 5,215 08 | 3,171 30 | 12,378 98 |
| Total expenditure—Hired tugs | | | | | | | | |
| Total—complete expenditure | 808 53 | 326 93 | 1,608 29 | 33 40 | 1,215 45 | 5,215 08 | 3,171 30 | 12,378 98 |
| Cubic yards removed | 2,914 | 1,741 | 6,835 | 160 | 5,451 | 18,390 | 5,766 | 41,257 |
| Cost per cu. yd. (calculated from total expenditure) | 27·74 cts. | 18·77 cts. | 23·53. cts | 20·87 cts. | 22·29 cts. | 28·35 cts. | 55·00 cts. | 30·00 cts. |
| Cost per hour actually dredging | $10·54 | $10·54 | $10·54 | $10·54 | $10·54 | $10·54 | $10·60 | $10·54 |
| Kind of material | Clay, sand, stones. | Clay | Clay | Clay, sand | Clay | Clay | Sand, stones, gravel | |
| Work commenced | May 7th | May 20th | May 30th | June 22nd | June 25th | July 15th | Sept. 23rd | |
| Work completed | May 18th | May 25th | June 21st | June 22nd | July 11th | Sept. 17th | Nov. 16th | |

## DISTRIBUTION OF TIME IN HOURS.

| | H. M. | % of total. | H. M. | % of total. | H. M. | % of total. | H. M. | % of total. | H. M. | % of total. | H. M. | % of total. | H. M. | % of total. | H. M. | % of total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost by storms and weather | 1 00 | 0·9 | 10 00 | 16·7 | 1 00 | 0·4 | | | | | 6 00 | 1·0 | 24 30 | 4·7 | 42 30 | 2·5 |
| " repairs | | | | | 4 00 | 1·7 | | | 18 45 | 11·5 | 43 40 | 7·6 | 107 30 | 20·7 | 173 55 | 10·4 |
| " coaling | 2 00 | 1·8 | 2 00 | 3·3 | 5 00 | 2·2 | | | | | 5 00 | 0·8 | 4 00 | 0·7 | 18 00 | 1·1 |
| " watering | | | | | | | | | | | | | | | | |
| " tide and current | | | | | | | | | | | | | | | | |
| " cleaning plant | 1 00 | 0·9 | 1 00 | 1·7 | 2 00 | 0·8 | | | 1 00 | 0·6 | | | 4 00 | 0·7 | 9 00 | 0·5 |
| " cleaning boilers | | | 2 00 | 3·3 | | | | | | | | | | | 2 00 | 0·2 |
| " inspecting boilers | | | | | | | | | | | | | | | | |
| " holidays | 20 00 | 18·2 | 10 00 | 16·7 | 10 00 | 4·4 | | | 10 00 | 6·4 | 10 00 | 1·7 | 20 00 | 3·8 | 80 00 | 4·8 |
| " waiting on scows or tug | | | | | | | | | | | 1 00 | 0·2 | | | 1 00 | 0·1 |
| " waiting orders | | | | | | | | | | | | | | | | |
| " towing and preparing for work | 7 20 | 6·7 | 4 00 | 6·7 | 32 30 | 14·2 | 6 50 | 68·3 | 14 00 | 8·8 | 5 30 | 0·9 | 47 00 | 9·4 | 117 10 | 7·1 |
| " moving dredge and changing cut | 2 00 | 1·8 | | | 1 00 | 0·4 | | | 1 00 | 0·6 | 4 20 | 0·7 | 3 00 | 0·6 | 11 20 | 0·6 |
| " short of coal or supplies | | | | | 22 00 | 9·6 | | | | | 10 00 | 1·7 | | | 32 00 | 1·9 |
| " miscellaneous | | | | | | | | | | | | | 11 00 | 1·9 | 11 00 | 0·6 |
| Total lost time | 33 20 | 30·3 | 29 00 | 48·4 | 77 30 | 33·7 | 6·50 | 68·3 | 44 45 | 27·9 | 85 30 | 14·6 | 221 00 | 42·5 | 497 55 | 29·8 |
| Time actually dredging | 76 40 | 69·7 | 31 00 | 51·6 | 152 30 | 66·3 | 3 10 | 31·7 | 115 15 | 72·1 | 494 30 | 85·4 | 299 00 | 57·5 | 1172 05 | 70·2 |
| Possible dredging time | 110 00 | 100 | 60 00 | 100 | 230 00 | 100 | 10 00 | 100 | 160 00 | 100 | 580 00 | 100 | 520 00 | 100 | 1670 00 | 100 |

*Names of Departmental tugs included in expenditure, dates between which employed, and localities*:—Tug *Ottawa*, all season. Tug *Alva*, St. Antoine, July 15 to 20. Tug *Lion*, St. Antoine, July 29 to Sept. 21; Lacolle, Oct. 21 to Nov 16.

*Names of Rented Tugs included in Expenditure, dates between which employed, and localities*:—None.

*Date Dredge put in Commission*.—May 3, 1912. *Dredge laid up for winter at* Chambly, Que., December 11, 1912.

*Remarks*.—Dredging at Beloeil, private work.

## ONTARIO AND QUEBEC—*Continued.*

### DEPARTMENTAL DREDGE 'SIR RICHARD,' AND PLANT IN ATTENDANCE.

| | April. | May. | June. | July. | August. | September | October. | November. | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c.yds | | 1,955 | 13,140 | 12,715 | 14,040 | 10,550 | 2,500 | 5,800 | | | | | 60,690 |
| Kind of material | | Sand. | Sand | Sand, clay, stones | Sand, clay | Sand | Sand | Sand, clay, gravel | | | | | |
| Total possible dredging time | | H. M. 50 00 | H. M. 250 00 | H. M. 270 00 | H. M. 270 00 | H. M. 250 00 | H. M. 270 00 | H. M. 240 00 | | | | | H. M. 1,600 00 |
| Hours actually dredging | | 27 00 | 182 30 | 174 30 | 201 30 | 154 00 | 15 00 | 66 00 | | | | | 847 30 |
| Per hour actually dredging c. yds | | 71 00 | 72 00 | 74 00 | 70 00 | 68 00 | 55 00 | 88 00 | | | | | 71 00 |

### DETAILS OF EXPENDITURE.

| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | 318 33 | 550 00 | 537 00 | 597 42 | 663 04 | 625 17 | 751 73 | 537 83 | 233 71 | 50 00 | 280 00 | 795 20 | 5,937 43 |
| Provisions | | 186 60 | 163 50 | 160 15 | 160 16 | 153 00 | 183 94 | 192 50 | 36 55 | 64 35 | | 82 74 | 1,383 49 |
| Fuel | 153 00 | 138 98 | 143 93 | 197 30 | 270 33 | 269 38 | 46 00 | 156 15 | 8 00 | 269 12 | | 20 65 | 1,973 04 |
| Stores and equipment | 43 49 | 193 00 | 294 77 | 43 05 | 87 20 | 62 07 | | 117 50 | 19 48 | 18 20 | 4 48 | 459 42 | 1,342 66 |
| Contingencies | 11 40 | 30 39 | 58 41 | 4 65 | 10 45 | 22 50 | 53 46 | 20 37 | 57 26 | | 10 55 | 270 59 | 550 03 |
| Water | | | | | | | | | | | | | |
| Pilotage and towage | | | | | | | | | | | | | |
| Wharfage | | | | | | | | | | | | | 705 00 |
| Rental hired tugs | | | | | | | | | | | | | |
| Repairs (inc. all items charged to D.V.rep'rs) | 416 22 | | 2,232 83 | 131 42 | 4,363 43 | 42 25 | 51 57 | 178 72 | 184 51 | 137 60 | 375 69 | 1,088 65 | 9,202 89 |
| Repairs—Extraordin'y | | | | | | | | | | | | | |
| Totals | 942 44 | 1,098 97 | 3,305 44 | 1,134 19 | 5,554 61 | 1,472 37 | 1,086 70 | 1,493 07 | 539 51 | 879 27 | 670 72 | 2,717 25 | 24,094 54 |

### EXPENDITURE INCURRED WORKING AT:

| | Newcastle. | Pickering. | Port Burwell. | Port Bruce. | | | | Totals. |
|---|---|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | $ cts. | $ cts. | | | | $ cts. |
| Wages—Dredge and departmental tugs | 2,175 30 | 2,984 48 | 315 26 | 462 39 | | | | 5,937 43 |
| Provisions—Dredge and departmental tugs | 506 87 | 695 42 | 73 46 | 107 74 | | | | 1,383 49 |
| Fuel—Dredge and departmental tugs | 722 87 | 991 76 | 104 76 | 153 65 | | | | 1,973 04 |
| Stores and equipment—Dredge and departmental tugs | 491 91 | 674 90 | 71 29 | 104 56 | | | | 1,342 66 |
| Contingencies—Dredge and departmental tugs | 201 51 | 276 47 | 29 22 | 42 83 | | | | 550 03 |
| Water—Dredge and departmental tugs | | | | | | | | |
| Pilotage and towage—Dredge and departmental tugs | | | | | | | | |
| Wharfage—Dredge and departmental tugs | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Repairs—Dredge and departmental tugs | 3,371 68 | 4,625 88 | 488 65 | 716 68 | | | | | 9,202 89 |
| Repairs, extraordinary—Dredge and departmental tugs | | | | | | | | | |
| Rental of hired tugs | 27 48 | 37 69 | 293 98 | 345 85 | | | | | 705 00 |
| Total expenditure—Dredge and departmental tugs | 7,470 14 | 10,248 91 | 1,082 64 | 1,587 85 | | | | | 20,389 54 |
| Total expenditure—Hired tugs | 27 48 | 37 69 | 293 98 | 345 85 | | | | | 705 00 |
| Total—complete expenditure | 7,497 62 | 10,286 60 | 1,376 62 | 1,933 70 | | | | | 21,094 54 |
| Cubic yards removed | 22,690 | 29,700 | 2,500 | 5,800 | | | | | 60,690 |
| Cost per cubic yard (calculated from total expenditure) | 33·04 cts. | 34·63 cts. | 55·06 cts. | 33·33 cts. | | | | | 34·75 cts. |
| Cost per hour, actually dredging | $24.14 | $24.12 | $30.59 | $29.29 | | | | | $24.89 |
| Kind of material | Sand & stones. | Sand & clay. | Sand | Sand, clay, gravel. | | | | | |
| Work commenced | May 27th | July 19th | Oct. 10th | Nov. 2nd | | | | | |
| Work completed | July 17th | Sept. 28th | Oct. 24th | Nov. 28th | | | | | |

## DISTRIBUTION OF TIME IN HOURS.

| | H | M | % of total. | H | M | % of total. | H | M | % of total. | H | M | % of total. | | % of total. | | % of total. | | % of total. | H | M | % of total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost by storms and weather | 24 | 00 | 5·3 | 45 | 00 | 7·2 | 85 | 00 | 38·7 | 177 | 00 | 59·00 | | | | | | | 331 | 00 | 20·7 |
| " repairs | 57 | 00 | 12·7 | 40 | 00 | 6·4 | 6 | 00 | 2·7 | | | | | | | | | | 103 | 00 | 6·4 |
| " coaling | 13 | 30 | 3·1 | 18 | 00 | 2·8 | | | | | | | | | | | | | 31 | 30 | 1·9 |
| " watering | | | | | | | | | | | | | | | | | | | | | |
| " tides and current | | | | | | | | | | | | | | | | | | | | | |
| " cleaning plant | 6 | 30 | 1·4 | 13 | 00 | 2·1 | | | | | | | | | | | | | 19 | 30 | 1·2 |
| " cleaning boilers | 14 | 00 | 3·2 | 10 | 00 | 1·6 | | | | | | | | | | | | | 24 | 00 | 1·5 |
| " inspecting boilers | | | | | | | 10 | 00 | 4·5 | | | | | | | | | | 10 | 00 | 0·7 |
| " holidays | 20 | 00 | 4·4 | 10 | 00 | 1·6 | | | | 10 | 00 | 3·4 | | | | | | | 40 | 00 | 2·50 |
| " waiting on scows or tug | | | | 18 | 00 | 2·8 | | | | | | | | | | | | | 18 | 00 | 1·1 |
| " waiting orders | | | | 25 | 00 | 4·0 | | | | | | | | | | | | | 25 | 00 | 1·6 |
| " towing and preparing for work | | | | 23 | 00 | 3·6 | 70 | 00 | 31·9 | 40 | 00 | 13·3 | | | | | | | 133 | 00 | 8·4 |
| " moving dredge and changing cut | 2 | 00 | 0·4 | | | | | | | | | | | | | | | | 2 | 00 | 0·1 |
| " short of coal or supplies | | | | | | | | | | | | | | | | | | | | | |
| " miscellaneous | 2 | 30 | 0·5 | 2 | 00 | 0·3 | 4 | 00 | 1·8 | 7 | 00 | 2·3 | | | | | | | 15 | 30 | 0·9 |
| Total lost time | 139 | 30 | 31·0 | 204 | 00 | 32·4 | 175 | 00 | 79·6 | 234 | 00 | 78·0 | | | | | | | 752 | 30 | 47·0 |
| Time actually dredging | 310 | 30 | 69·0 | 426 | 00 | 67·6 | 45 | 00 | 40·4 | 66 | 00 | 22·0 | | | | | | | 847 | 30 | 53·0 |
| Possible dredging time | 450 | 00 | 100 | 630 | 00 | 100 | 220 | 00 | 100 | 300 | 00 | 100 | | | | | | | 1600 | 00 | 100 |

*Names of Departmental Tugs included in expenditure, dates between which employed, and localities:*—Tug *Trudeau*, all season.

*Names of Rented Tugs included in expenditure, dates between which employed and localities:*—April 18, tug *Meteor*, towing dredge from Port Dalhousie to Toronto for repairs; tug, *Meteor*. Oct. 4 and 5, towing from Pickering to Port Burwell; tug *Enterprise*, at Port Bruce.

*Date Dredge put in commission*—May 23, 1912. *Dredge laid up for winter at* Port Burwell, Ont,. Dec. 14.

## ONTARIO AND QUEBEC.—*Concluded.*

### Departmental Dredge 'St. Louis,' and Plant in Attendance.

| | April. | May. | June. | July. | August. | September | October. | November. | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled c yds. | | 3,105 | 5,527 | 7,692 | 7,999 | 6,142 | 5,397 | 3,333 | | | | | 39,195 |
| Kind of material | | Clay, rock, mud. | Sand, clay. | Sand | Sand | Sand | Clay | Clay | | | | | |
| Total possible dredging time | H. M. | H. M. 220 00 | H. M. 250 00 | H. M. 270 00 | H. M. 270 00 | H. M. 250 00 | H. M. 280 00 | H. M. 190 00 | | | | | H. M. 1,730 00 |
| Hours actually dredging | | 145 00 | 201 30 | 254 00 | 258 00 | 208 00 | 176 30 | 129 30 | | | | | 1,372 30 |
| Per hour, actually dredging .. c. yds. | | 21 00 | 27 00 | 30 00 | 31 00 | 29 00 | 30 00 | 25 00 | | | | | 28 00 |

### DETAILS OF EXPENDITURE.

| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | 287 50 | 519 29 | 480 00 | 480 00 | 480 00 | 480 00 | 513 34 | 480 00 | 135 78 | 90 00 | 62 96 | 549 67 | 4,558 54 |
| Provisions | 75 00 | 165 50 | 179 35 | 175 00 | 165 00 | 165 00 | 165 00 | 174 00 | 33 90 | | 3 50 | 56 80 | 1,358 05 |
| Fuel | 97 14 | | | | 987 96 | | 18 50 | 148 50 | 20 95 | 10 50 | | 91 66 | 1,375 21 |
| Stores and equipment | 138 28 | 88 05 | 1 95 | | 10 00 | 5 00 | | | 10 27 | | 6 45 | 392 33 | 652 33 |
| Contingencies | 19 55 | 43 70 | 9 85 | 2 90 | 5 10 | 3 00 | 3 00 | 53 05 | 34 85 | 4 50 | 19 89 | 148 85 | 348 24 |
| Water | | | | | | | | | | | | | |
| Pilotage and towage | | | | | | | | | | | | | |
| Wharfage | | | | | | | | | | | | | |
| Rental hired tugs | | | | | | | | | | | | | |
| Repairs (inc. all items charged to D. V. rep'rs) | 619 87 | | 212 10 | 250 00 | 22 53 | 368 10 | | 93 70 | 32 89 | | 150 13 | 294 12 | 2,043 44 |
| Repairs—Extraordin'y | | | | | | | | | | | | | |
| Totals | 1,237 34 | 816 54 | 883 25 | 907 90 | 1,670 59 | 1,021 10 | 699 84 | 949 25 | 268 64 | 105 00 | 242 93 | 1,533 43 | 10,335 81 |

### EXPENDITURE INCURRED WORKING AT:

| | Como, Que. | Lachine Basin Que. | Yamaska, Que. | St. Roch, Que. | Ile au Castor, Que. | | | Totals. |
|---|---|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | | | $ cts. |
| Wages—Dredge and departmental tugs | 415 17 | 66 42 | 3,447 55 | 376 97 | 252 43 | | | 4,558 54 |
| Provisions—Dredge and departmental tugs | 123 68 | 19 79 | 1,027 07 | 112 31 | 75 20 | | | 1,358 05 |
| Fuel—Dredge and departmental tugs | 125 25 | 20 04 | 1,040 05 | 113 72 | 76 15 | | | 1,375 21 |
| Stores and equipment—Dredge and departmental tugs | 59 40 | 9 51 | 493 36 | 53 94 | 36 12 | | | 652 33 |
| Contingencies—Dredge and departmental tugs | 31 72 | 5 08 | 263 36 | 28 80 | 19 28 | | | 348 24 |
| Water—Dredge and departmental tugs | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Pilotage and towage—Dredge and departmental tugs | | | | | | | | | |
| Wharfage—Dredge and departmental tugs | | | | | | | | | |
| Repairs—Dredge and departmental tugs | 186 11 | 29 77 | 1,545 42 | 168 99 | 113 15 | | | | |
| Repairs, extraordinary—dredge and departmental tugs | | | | | | | | | |
| Rental of hired tugs | | | | | | | | | |
| Total expenditure—Dredge and departmental tugs | 941 33 | 150 61 | 7,816 81 | 854 73 | 572 33 | | | | 10,335 81 |
| Total expenditure—Hired tugs | | | | | | | | | |
| Total—complete expenditure | 941 33 | 150 61 | 7,816 81 | 854 73 | 572 33 | | | | 10,335 81 |
| Cubic yards removed | 2,875 | 230 | 31,370 | 2,926 | 1,794 | | | | 39,195 |
| Cost per yard (calculated from total expenditure) | 32·74 cts. | 65·46 cts. | 24·91 cts. | 29·21 cts. | 31·90 cts. | | | | 26·37 cts. |
| Cost per hour, actually dredging | $7 53 | $7.53 | $7.53 | $7.53 | $7.53 | | | | $7.53 |
| Kind of material | Clay | Mud and rock | Sand & clay | Clay | Clay | | | | |
| Work commenced | May 7th | May 28th | June 5th | October 21st | Nov. 12th | | | | |
| Work completed | May 24th | May 29th | October 15th | Nov. 9th | Nov. 23rd | | | | |

## DISTRIBUTION OF TIME IN HOURS.

| | H | M | % of total. | H | M | % of total. | H | M | % of total. | H | M | % of total. | H | M | % of total. | H | M | % of total. | H | M | % of total. | H | M | % of total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost by storms and weather | | | | | | | 4 | 30 | 0·4 | 7 | 30 | 3·4 | 20 | 00 | 16·6 | | | | | | | 32 | 00 | 1·8 |
| " repairs | 4 | 00 | 2·5 | | | | 77 | 00 | 6·5 | 33 | 30 | 15·3 | 3 | 00 | 2·5 | | | | | | | 117 | 30 | 6·8 |
| " coaling | 3 | 00 | 1·9 | | | | | | | 10 | 30 | 4·8 | | | | | | | | | | 13 | 30 | 0·7 |
| " watering | | | | | | | | | | | | | | | | | | | | | | | | |
| " tide and current | | | | | | | | | | | | | | | | | | | | | | | | |
| " cleaning plant | | | | | | | | | | | | | | | | | | | | | | | | |
| " cleaning boilers | | | | | | | | | | | | | | | | | | | | | | | | |
| " inspecting boilers | | | | | | | | | | | | | | | | | | | | | | | | |
| " holidays | 10 | 00 | 1·2 | | | | 10 | 00 | 0·8 | 10 | 00 | 4·5 | | | | | | | | | | 30 | 00 | 1·7 |
| " waiting on scows or tug | | | | | | | | | | | | | | | | | | | | | | | | |
| " waiting orders | | | | | | | 15 | 00 | 1·3 | | | | | | | | | | | | | 15 | 00 | 0·9 |
| " towing and preparing for work | 5 | 00 | 3·1 | 20 | 00 | 50·0 | 35 | 30 | 3·0 | 40 | 00 | 18·2 | 13 | 00 | 10·8 | | | | | | | 113 | 30 | 6·5 |
| " moving dredge and changing cut | | | | | | | 10 | 00 | 0·8 | | | | | | | | | | | | | | | |
| " short of coal or supplies | | | | | | | | | | 5 | 00 | 2·3 | 8 | 00 | 6·7 | | | | | | | 13 | 00 | 0·8 |
| " miscellaneous | 13 | 00 | 8·1 | | | | | | | | | | | | | | | | | | | 13 | 00 | 0·8 |
| Total lost time | 35 | 00 | 21·8 | 20 | 00 | 50·0 | 152 | 00 | 12·8 | 106 | 30 | 48·5 | 44 | 00 | 36·6 | | | | | | | 357 | 30 | 20·6 |
| Time actually dredging | 125 | 00 | 78·2 | 20 | 00 | 50·0 | 1038 | 00 | 87·2 | 113 | 30 | 51·5 | 76 | 00 | 63·4 | | | | | | | 1372 | 30 | 79·4 |
| Possible dredging time | 160 | 00 | 100 | 40 | 00 | 100 | 1190 | 00 | 100 | 220 | 00 | 100 | 120 | 00 | 100 | | | | | | | 1730 | 00 | 100 |

*Names of Departmental Tugs included in expenditure, dates between which employed, and localities:*—Tug *Daisy*, all season.
*Names of Rented Tugs included in expenditure, dates between which employed, and localities:*—None.
*Date Dredge put in commission*—May 2, 1912. *Dredge laid up for winter at* Montreal, Que., 7th December, 1912.

# QUEBEC.

## Departmental Dredge 'Stone Lifter,' and Plant in Attendance.

| | April. | May. | June. | July. | August. | September | October. | November. | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c.yds | | | | 14 | 22 | 7 | 1·5 | | | | | | 44·5 |
| Kind of material | | | | Boulders. | Boulders. | Boulders. | Boulders. | | | | | | |
| Total possible dredging time | | | | Hours. 200 | Hours. 270 | Hours. 230 | Hours. 50 | | | | | | Hours. 750 |
| Hours actually dredging | | | | 115 | 110 | 40 | 20 | | | | | | 285 |
| Per hour, actually dredging....c. yds. | | | | 0·12 | 0·20 | 0·17 | 0·07 | | | | | | |

### DETAILS OF EXPENDITURE.

| | | | | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | | | | | $ cts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | | | | 454 44 | 558 33 | 955 72 | 566 81 | 643 06 | | | | | 3,178 36 |
| Provisions | | | | | 225 00 | 265 60 | 208 06 | 161 88 | | | | | 860 54 |
| Fuel | | | | | | 64 18 | | 195 89 | | | | | 260 07 |
| Stores and equipment | | | | | | | | | | | | | |
| Contingencies | | | | 74 25 | | 121 10 | 24 20 | 546 09 | | | | | 765 64 |
| Water | | | | | | | | | | | | | |
| Pilotage and towage | | | | | | | | | | | | | |
| Wharfage | | | | | | | | | | | | | |
| Rental hired tugs | | | | | | | | | | | | | |
| Repairs (inc. all items charged to D.V.rep'rs) | | | | 366 30 | | 878 33 | | 633 70 | | | | | 1,878 33 |
| Repairs—Extraordinary | | | | | | | | | | | | | |
| Totals | | | | 894 99 | 783 33 | 2,284 93 | 799 07 | 2,180 62 | | | | | 6,942 94 |

### EXPENDITURE INCURRED WORKING AT:

| | From Rapids Croche to Batiscan Riv. | | | | | | | | Totals. |
|---|---|---|---|---|---|---|---|---|---|
| | $ cts. | | | | | | | | $ cts. |
| Wages—Dredge and departmental tugs | 3,178 36 | | | | | | | | 3,178 36 |
| Provisions—Dredge and departmental tugs | 860 54 | | | | | | | | 860 54 |
| Fuel—Dredge and departmental tugs | 260 07 | | | | | | | b | 260 07 |
| Stores and equipment—Dredge and departmental tugs | | | | | | | | | |
| Contingencies—Dredge and departmental tugs | 765 64 | | | | | | | | 765 64 |
| Water—Dredge and departmental tugs | | | | | | | | | |
| Pilotage and towage—Dredge and departmental tugs | | | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Wharfage—Dredge and departmental tugs | | | | | | | | | |
| Repairs—Dredge and departmental tugs | 1,878 33 | | | | | | | | 1,878 33 |
| Repairs, extraordinary—Dredge and departmental tugs | | | | | | | | | |
| Rental of hired tugs | | | | | | | | | |
| Total expenditure—Dredge and departmental tugs | | | | | | | | | |
| Total expenditure—Hired tugs | | | | | | | | | |
| Total—complete expenditure | 6,942 94 | | | | | | | | 6,942 94 |
| Cubic yards removed | 44·5 | | | | | | | | 44·5 |
| Cost per cu. yd. (calculated from total expenditure) | $156·02 | | | | | | | | $156.02 |
| Cost per hour, actually dredging | $24.36 | | | | | | | | $24.36 |
| Kind of material | Boulders | | | | | | | | |
| Work commenced | July 5th, 1912. | | | | | | | | |
| Work completed | Oct. 5th, 1912. | | | | | | | | |

DISTRIBUTION OF TIME IN HOURS.

| | H M | % of total. | % of total. | % of total. | % of total. | % of total. | % of total. | % of total. | H M | % of total. |
|---|---|---|---|---|---|---|---|---|---|---|
| Lost by storms and weather | 25 00 | | | | | | | | 25 00 | |
| " repairs | | | | | | | | | | |
| " coaling | | | | | | | | | | |
| " watering | | | | | | | | | | |
| " tide and current | | | | | | | | | | |
| " cleaning plant | 5 00 | | | | | | | | 5 00 | |
| " cleaning boilers | | | | | | | | | | |
| " inspecting boilers | | | | | | | | | | |
| " holidays | | | | | | | | | | |
| " waiting on scows or tug | | | | | | | | | | |
| " waiting orders | | | | | | | | | | |
| " towing and preparing for work | | | | | | | | | | |
| " moving dredge and changing cut | 315 00 | | | | | | | | 315 00 | |
| " short of coal or supplies | | | | | | | | | | |
| " soundings | 120 00 | | | | | | | | 120 00 | |
| " miscellaneous | | | | | | | | | | |
| Total lost time | 465 00 | | | | | | | | 465 00 | |
| Time actually dredging | 285 00 | | | | | | | | 285 00 | |
| Possible dredging time | 750 00 | | | | | | | | 750 00 | |

*Names of Departmental Tugs included in expenditure, dates between which employed, and localities:*—None.
*Names of Rented Tugs included in expenditure, dates between which employed, and localities:*—None.
*Date Dredge put in commission*—July 4, 1912. *Dredge laid up for winter at* Pte. Madeleine, October 29, 1912.

## QUEBEC—*Continued.*

### Departmental Dredge 'St. Maurice,' and Plant in Attendance.

| | April. | May. | June. | July. | August. | September. | October. | November. | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c yds | | | | 3,727 | 5,995 | 2,856 | 8,206 | | | | | | 20,784 |
| Kind of material | | | | Sand and gravel.... | Sand..... | Gravel..... | Gravel.... | | | | | | |
| Total possible dredging time | | | | H. M. 145 00 | H. M. 243 00 | H. M. 183 00 | H. M. 213 00 | | | | | | H. M. 784·0 |
| Hours actually dredging | | | | 95 30 | 160 00 | 51 00 | 155 00 | | | | | | 461·5 |
| Per hour, actually dredging... c. yds. | | | | 39 | 37·5 | 55·9 | 52·9 | | | | | | |

### DETAILS OF EXPENDITURE.

| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | 89 32 | 149 01 | 630 00 | 579 00 | 579 00 | 654 00 | 797 45 | 184 00 | 184 00 | 184 00 | 184 00 | 4,213 78 |
| Provisions | | 23 00 | 201 60 | 180 00 | 180 00 | 180 00 | 225 00 | | | | | 989 60 |
| Fuel | | | 861 35 | | | 1 00 | | | | | | 862 35 |
| Stores and equipment | | | | | | | 1 50 | | | | | 1 50 |
| Contingencies | 156 55 | | 62 22 | | | 4 95 | 87 90 | | | | | 311 62 |
| Water | | | | | | | | | | | | |
| Pilotage and towage | | | 143 50 | | | | | | | | | 143 50 |
| Wharfage | | | | | | | | | | | | |
| Rental hired tugs | | | | | | | | | | | | |
| Repairs (inc. all items charged to D.V.rep'rs) | 94 68 | | 163 57 | | | | 371 30 | 47 79 | | | | 677 34 |
| Repairs—Extraordin'y | | | | | | | | | | | | |
| Totals | 340 55 | 172 01 | 2,062 24 | 759 00 | 1,211 25 | 1,159 64 | 184 00 | 184 00 | 184 00 | 184 00 | 184 00 | 7,199 69 |

### EXPENDITURE INCURRED WORKING AT:

| | Mckinac. | Ile aux Morpions. | Ricard Crossing. | Pte a Trudel. | Ricard Crossing. | Pointe a Madeleine. | | Totals. |
|---|---|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | | $ cts. |
| Wages—Dredge and departmental tugs | 630 00 | 173 70 | 250 90 | 636 90 | 510 20 | 2,012 08 | | 4,213 78 |
| Provisions—Dredge and departmental tugs | 201 60 | 54 00 | 78 00 | 198 00 | 172 50 | 285 50 | | 989 60 |
| Fuel—Dredge and departmental tugs | 861 35 | | | 1 00 | | | | 862 35 |
| Stores and equipment—Dredge and departmental tugs | | | | | | 1 50 | | 1 50 |
| Contingencies—Dredge and departmental tugs | 62 22 | | | 4 95 | 30 50 | 213 95 | | 311 62 |
| Water—Dredge and departmental tugs | | | | | | | | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Pilotage and towage—Dredge and departmental tugs | 143 50 | | | | | | | 143 50 |
| Wharfage—Dredge and departmental tugs | | | | | | | | |
| Repairs—Dredge and departmental tugs | 163 57 | | | 371 30 | 27 79 | 114 68 | | 677 34 |
| Repairs—Extraordinary—Dredge and departmental tugs | | | | | | | | |
| Rental of hired tugs | | | | | | | | |
| Total expenditure—Dredge and departmental tugs | 2,062 24 | 227 70 | 328 90 | 1,212 15 | 740 99 | 2,627 71 | | 7,199 69 |
| Total expenditure—Hired tugs | | | | | | | | |
| Total—complete expenditure | | | | | | | | |
| Cubic yards removed | 3,727 | 2,848 | 2,526 | 3,477 | 7,144 | 1,062 | | 20,784 |
| Cost per cu. yd. (calculated from total expenditure) | 55 cts. | 8 cts. | 13 cts. | 35 cts. | 11 cts. | | | 34·7 cts. |
| Per hour, actually dredging | $21.59 | $3.86 | $4.06 | $17.07 | $5.79 | | | $15.60 |
| Kind of material | Sand, gravel | Sand | Gravel | Gravel | Gravel | Gravel | | |
| Work commenced | July 12, 1912 | July 31, 1912 | Aug. 12, 1912 | Aug. 29, 1912 | Oct. 1, 1912 | Oct. 21, 1912 | | |
| Work completed | July 30, 1912 | Aug. 9, 1912 | Aug. 23, 1912 | Sept. 27, 1912 | Oct. 18, 1912 | Oct. 28, 1912 | | |

## DISTRIBUTION OF TIME IN HOURS.

| | H | M | % of total. | H | M | % of total. | H | M | % of total. | H | M | % of total. | H | M | % of total. | H | M | % of total. | H | M | % of total. | H | M | % of total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost by storms and weather | | | | | | | | | | | | | | | | | | | | | | | | |
| " repairs | 21 | 30 | 14·8 | 1 | 00 | 1·4 | 8 | 00 | 7·6 | 52 | 00 | 22·5 | 7 | 00 | 4·2 | 16 | 00 | 26·6 | | | | 105 | 30 | 13·6 |
| " coaling | | | | | | | | | | 1 | 00 | 0·5 | | | | | | | | | | 1 | 00 | 0·1 |
| " watering | | | | | | | | | | | | | | | | | | | | | | | | |
| " tide and current | | | | | | | | | | 3 | 00 | 1·3 | | | | | | | | | | 3 | 00 | 0·3 |
| " cleaning plant | | | | | | | | | | | | | | | | | | | | | | | | |
| " cleaning boilers | | | | | | | | | | | | | | | | | | | | | | | | |
| " inspecting boilers | | | | | | | | | | | | | | | | | | | | | | | | |
| " holidays | | | | | | | | | | | | | | | | | | | | | | | | |
| " waiting on scows or tug | | | | | | | | | | | | | | | | | | | | | | | | |
| " waiting orders | | | | | | | | | | | | | | | | | | | | | | | | |
| " towing and preparing for work | 19 | 00 | 13·1 | 6 | 00 | 8·0 | 10 | 00 | 9·5 | 17 | 00 | 7·4 | 20 | 00 | 11·9 | 15 | 00 | 25·0 | | | | 87 | 00 | 11·1 |
| " moving dredge and changing tug | | | | | | | | | | | | | | | | | | | | | | | | |
| " short of coal or supplies | | | | | | | | | | 80 | 00 | 34·2 | | | | | | | | | | 80 | 00 | 10·2 |
| " greasing | 7 | 00 | 4·8 | 6 | 00 | 8·0 | 6 | 00 | 5·7 | 7 | 00 | 3·0 | 13 | 00 | 7·8 | 2 | 00 | 3·3 | | | | 41 | 00 | 5·1 |
| " floating logs | 1 | 00 | 0·8 | 1 | 00 | 1·4 | | | | | | | | | | | | | | | | 2 | 00 | 0·2 |
| " miscellaneous | 1 | 00 | 0·8 | 2 | 00 | 2·8 | | | | | | | | | | | | | | | | 3 | 00 | 0·2 |
| Total lost time | 49 | 30 | 34·1 | 16 | 00 | 21·3 | 24 | 00 | 22·8 | 160 | 00 | 69·3 | 40 | 00 | 23·8 | 33 | 00 | 55·0 | | | | 322 | 30 | 42·4 |
| Time actually dredging | 95 | 30 | 65·8 | 59 | 00 | 78·7 | 81 | 00 | 77·1 | 71 | 00 | 30·8 | 128 | 00 | 76·2 | 27 | 00 | 45·0 | | | | 461 | 5 | 58·8 |
| Possible dredging time | 145 | 00 | 100 | 75 | 00 | 100 | 105 | 00 | 100 | 231 | 00 | 100 | 168 | 00 | 100 | 60 | 00 | 100 | | | | 7840 | 00 | 100 |

*Names of Departmental Tugs included in expenditure, dates between which employed, and localities:*—*Annette*, July 10, 1912, October 29, 1912; *Mekinac*, Ile aux Morpions, Ricard Crossing Pointe a Trudel, Pointe a Madeleine.

*Names of Rented Tugs included in expendtiure, dates between which employed, and localities:*—None.

*Date Dredge put in commission*———— *Dredge laid up for winter at* Pointe a Madeleine, October 29, 1912.

## QUEBEC—*Concluded.*

### Departmental Dredge 'No. 4,' and Plant in Attendance.

| | April. | May. | June. | July. | August. | September. | October. | November. | December. | January. | February. | March. | Total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c.yds | | 400 | 7,000 | 12,000 | 18,600 | 16,000 | 12,600 | 8,200 | | | | | 74,800 |
| Kind of material | | Sand | Sand | Rock, sand | Sand, rock | Clay, sand | Sand | Sand | | | | | |
| Total possible dredging time | | H. M. 30 00 | H. M. 250 00 | H. M. 270 00 | H. M. 270 00 | H. M. 250 00 | H. M. 270 00 | H. M. 170 00 | | | | | H. M. 1510 00 |
| Hours actually dredging | | 7 45 | 77 20 | 120 00 | 203 15 | 182 45 | 144 00 | 98 45 | | | | | 833 50 |
| Per hour, actually dredging | | 51 61 | 90 52 | 100 00 | 91 51 | 87 55 | 87 50 | 83 03 | | | | | 89·706 |

### Details of Expenditure.

| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | 108 01 | 513 82 | 599 50 | 595 00 | 595 00 | 574 49 | 535 00 | 537 22 | 142 30 | | | | 4,200 34 |
| Provisions | 30 00 | 157 50 | 240 00 | 216 00 | 216 00 | 188 50 | 186 00 | 180 00 | 24 50 | | | | 1,408 50 |
| Fuel | 724 60 | | 150 73 | | | 1,086 76 | 371 00 | 269 50 | | | | | 2,602 59 |
| Stores and equipment | | 158 50 | | 7 35 | 119 66 | 18 16 | 59 47 | 83 92 | 46 45 | | | | 493 51 |
| Contingencies | 55 39 | 57 75 | 16 60 | 7 82 | 21 56 | 21 80 | 5 65 | 9 44 | 33 99 | | | | 230 00 |
| Water | | 91 20 | 131 17 | 137 64 | 89 88 | 94 83 | 86 25 | 50 63 | | | | | 681 60 |
| Pilotage and towage | | | | | | | | | | | | | |
| Wharfage | | | | | | | | | | | | | |
| Rental hired tugs | | | | | | | | | | | | | |
| Repairs (inc. all items charged to D.V. (rep'rs) | | | | | | | | | 49 50 | | | | 49 50 |
| Repairs—Extraordin'y | | 201 61 | | | 214 58 | 203 59 | | | 112 68 | | | 50 00 | 783 46 |
| | | 443 06 | | | | | | | | | | | 443 06 |
| Totals | 918 00 | 1,623 44 | 1,108 00 | 963 81 | 1,256 | 2,488 13 | 1,243 37 | 1,130 71 | 410 42 | 50 00 | | | 10,892 56 |

### Expenditure Incurred Working at:

| | Amherst, N.S. | | | | | | | | Totals. |
|---|---|---|---|---|---|---|---|---|---|
| | $ cts. | | | | | | | | $ cts. |
| Wages—Dredge | 4,200 34 | | | | | | | | 4,200 34 |
| " Departmental tugs | 2,211 35 | | | | | | | | 2,211 35 |
| Provisions—Dredge | 1,408 50 | | | | | | | | 1,408 50 |
| " Departmental tugs | 741 40 | | | | | | | | 741 40 |
| Fuel—Dredge | 2,602 59 | | | | | | | | 2,602 59 |
| " Departmental tugs | 130 50 | | | | | | | | 130 50 |
| Stores and equipment—Dredge | 493 51 | | | | | | | | 493 51 |
| " " Departmental tugs | 314 12 | | | | | | | | 314 12 |
| Contingencies—Dredge | 230 00 | | | | | | | | 230 00 |
| " Departmental tugs | 127 03 | | | | | | | | 127 03 |

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Water—Dredge | 681 60 | | | | | | | | | | | | | | | | | | 681 60 | |
| " Departmental tugs | 236 72 | | | | | | | | | | | | | | | | | | 236 72 | |
| Pilotage and towage—Dredge | 49 50 | | | | | | | | | | | | | | | | | | 49 50 | |
| " Departmental tugs | | | | | | | | | | | | | | | | | | | | |
| Wharfage—Dredge | | | | | | | | | | | | | | | | | | | | |
| " Departmental tugs | | | | | | | | | | | | | | | | | | | | |
| Repairs—Dredge | 783 46 | | | | | | | | | | | | | | | | | | 783 46 | |
| " Departmental tugs | 1,610 27 | | | | | | | | | | | | | | | | | | 1,610 27 | |
| Repairs, extraordinary—Dredge | 443 06 | | | | | | | | | | | | | | | | | | 443 06 | |
| " " Departmental tugs | 222 16 | | | | | | | | | | | | | | | | | | 222 16 | |
| Rental of hired tugs | | | | | | | | | | | | | | | | | | | | |
| Total expenditure—Dredge | 10,892 56 | | | | | | | | | | | | | | | | | | 10,892 56 | |
| Total expenditure—Departmental tugs | 5,593 55 | | | | | | | | | | | | | | | | | | 5,593 55 | |
| Total expenditure—Hired tugs | | | | | | | | | | | | | | | | | | | | |
| Total—complete expenditure | 16,486 11 | | | | | | | | | | | | | | | | | | 16,486 11 | |
| Cubic yards removed | 74,800 | | | | | | | | | | | | | | | | | | 74,800 | |
| Cost per yard (calculated from total expenditure) | $0·2204 | | | | | | | | | | | | | | | | | | $0·2204 | |
| Cost per hour, actually dredging | $19·7714 | | | | | | | | | | | | | | | | | | 19,7714 | |
| Kind of material | Sand, clay, rock. | | | | | | | | | | | | | | | | | | | |
| Work commenced | May 29th | | | | | | | | | | | | | | | | | | | |
| Work completed | Nov. 20th | | | | | | | | | | | | | | | | | | | |

DISTRIBUTION OF TIME IN HOURS.

| | H | M | % of total. | | % of total. | | % of total. | | % of total. | | % of total. | | % of total. | | % of total. | H | M | % of total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost by storms or weather | 186 | 45 | 12·36 | | | | | | | | | | | | | 186 | 45 | 12·36 |
| " repairs | 252 | 50 | 16·57 | | | | | | | | | | | | | 252 | 50 | 16·57 |
| " coaling | 46 | 20 | 3·58 | | | | | | | | | | | | | 46 | 20 | 3·58 |
| " watering | | | | | | | | | | | | | | | | | | |
| " tide and current | 14 | 00 | 0·92 | | | | | | | | | | | | | 14 | 00 | 0·92 |
| " cleaning plant | 1 | 30 | 0·09 | | | | | | | | | | | | | 1 | 30 | 0·09 |
| " cleaning boilers | 20 | 00 | 1·32 | | | | | | | | | | | | | 20 | 00 | 1·32 |
| " inspecting boilers | 30 | 00 | 1·94 | | | | | | | | | | | | | 30 | 00 | 1·94 |
| " holidays | 40 | 00 | 2·55 | | | | | | | | | | | | | 40 | 00 | 2·55 |
| " waiting on scows or tug | 29 | 50 | 1·87 | | | | | | | | | | | | | 29 | 50 | 1·97 |
| " waiting orders | 18 | 00 | 1·15 | | | | | | | | | | | | | 18 | 00 | 1·15 |
| " towing and preparing for work | 20 | 00 | 1·32 | | | | | | | | | | | | | 20 | 00 | 1·22 |
| " moving dredge and changing cut | 16 | 55 | 1·11 | | | | | | | | | | | | | 16 | 55 | 1·11 |
| " short of coal or supplies | | | | | | | | | | | | | | | | | | |
| " miscellaneous | | | | | | | | | | | | | | | | | | |
| Total lost time | 676 | 10 | 44·78 | | | | | | | | | | | | | 676 | 10 | 44·78 |
| Time actually dredging | 833 | 50 | 55·22 | | | | | | | | | | | | | 833 | 50 | 55·20 |
| Possible dredging time | 1510 | 00 | 100 | | | | | | | | | | | | | 1510 | 00 | 100 |

*Names of Departmental Tugs included in expenditure, dates between which employed, and localities:*—Tug *Rona*, commenced work, May 29, and was engaged until Nov. 20, 1912.
*Names of Rented Tugs included in expenditure, dates between which employed, and localities:*—None
*Date Dredge put in commission*—May 29. *Dredge laid up for winter—at* Charlottetown, P.E.I., Nov. 20, 1912..
*Remarks:* Dredge out of commission, July 23 to 24 with broken crank shaft; part had to be sent to Pictou for repairs. Amherst harbour very exposed.

# MANITOBA.

## Departmental Dredge 'No. 20' and Plant in Attendance.

| | April. | May. | June. | July. | August. | September | October. | November. | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c. yds | | 11,079 | 17,273 | 17,975 | 17,223 | 9,667 | 15,237 | | | | | | 88,454 |
| Kind of material | | Sand, sandy clay, hard clay. | Hard clay, sand. | Sand | Sand, hard clay. | Sand, hard clay. | Clay, sand, sandy clay. | | | | | | |
| Total possible dredging time hours | 80 | 270 | 250 | 270 | 270 | 250 | 270 | 20 | | | | | 1,680 |
| Hours actually dredging | | 117 | 178 | 195 | 211 | 119 | 156 | | | | | | 976 |
| Per hour actually dredging c. yds. | | 94·69 | 97·4 | 92·18 | 81·62 | 81·23 | 97·67 | | | | | | |

## DETAILS OF EXPENDITURE.

| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | 349 50 | 550 00 | 560 00 | 510 00 | 503 84 | 535 00 | 554 03 | 111 16 | | | | | 3,673 53 |
| Provisions | 22 47 | 228 25 | 179 07 | 136 37 | 549 26 | 105 93 | 160 56 | | 11 24 | | | | 1,393 15 |
| Fuel | 362 38 | 181 70 | | 615 22 | 792 93 | 193 39 | | | | | | 297 54 | 2,443 16 |
| Stores and equipment | 196 65 | 157 02 | | 32 15 | 105 76 | 51 72 | 5 00 | 94 95 | | | | | 643 25 |
| Contingencies | 6 09 | 9 50 | 8 00 | | 16 00 | 15 25 | | 8 00 | | | | 9 25 | 72 09 |
| Water (Piles) | | | | | | | | 120 00 | | | | 695 24 | 815 24 |
| Pilotage and towage | | | | | | | | | | | | | |
| Wharfage | | | | | | | | | | | | | |
| Rental hired tugs | | | | | | | | | | | | | |
| Repairs (inc. all items charged to D.V. rep'rs) | 55 22 | 18 24 | 14 08 | 667 75 | | 184 14 | 50 | 251 03 | 32 30 | 22 18 | 130 80 | 257 22 | 1,633 46 |
| Repairs—Extraordin'y | | | | | | | | | | | | | |
| Totals | 992 31 | 1,144 71 | 761 15 | 1,961 49 | 1,967 79 | 1,085 43 | 720 09 | 585 14 | 43 54 | 22 18 | 130 80 | 1,259 25 | 10,673 88 |

## EXPENDITURE INCURRED WORKING AT:

| | Mouth of Red River, New Channel. | East Channel. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | | | | | | | | | | | $ cts. |
| Wages—Dredge and departmental tugs | 3,115 94 | 557 59 | | | | | | | | | | | 3,673 53 |
| Provisions—Dredge and departmental tugs | 1,181 69 | 211 46 | | | | | | | | | | | 1,393 15 |
| Fuel—Dredge and departmental tugs | 2,072 32 | 370 84 | | | | | | | | | | | 2,443 16 |
| Stores and equipment—Dredge and departmental tugs | 545 62 | 97 63 | | | | | | | | | | | 643 25 |
| Contingencies—Dredge | 61 15 | 10 94 | | | | | | | | | | | 72 09 |

| | | |

## MANITOBA—*Continued.*

### DEPARTMENTAL DREDGE 'NO. 202,' AND PLANT IN ATTENDANCE.

| | April. | May. | June. | July. | August. | September. | October. | November. | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c.yds | | 990 | 2,243 | 2,331 | 2,714 | 1,298 | 7,611 | 1,534 | | | | | 18,721 |
| Kind of material | | Rock, boulders. | Rock, boulders. | Rock, boulders, gravel. | Rock, boulders. | Boulders. | Rock, mud. | Mud. | | | | | |
| Total possible dredging time.....hours | | 270 | 250 | 270 | 270 | 250 | 270 | 70 | | | | | 1,650 |
| Hours actually dredging | | 83 | 216 | 219 | 237 | 176 | 209 | 38 | | | | | 1,178 |
| Per hour, actually dredging.....c. yds | | 12·0 | 10·38 | 10·64 | 11·45 | 7·37 | 36·41 | 40·37 | | | | | |

### DETAILS OF EXPENDITURE.

| | | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | | 432 07 | 625 00 | 600 32 | 582 40 | 568 99 | 570 80 | 109 31 | | | | | 3,488 89 |
| Provisions | | 164 00 | 93 49 | 104 25 | 141 94 | | 351 99 | 25 55 | 3 60 | | | | 884 82 |
| Fuel | | 410 15 | 174 68 | 397 79 | 463 26 | | | | | | | 68 75 | 1,514 63 |
| Stores and equipment | 78 66 | 14 20 | 4 80 | 100 86 | 39 00 | 10 11 | 1 90 | 1 60 | 1 40 | | | | 252 53 |
| Contingencies | | 4 00 | 8 00 | 14 50 | 8 00 | 8 00 | 8 00 | 6 25 | | | | | 56 75 |
| Water | | | | | | | | | | | | | |
| Pilotage and towage | | | | | | | | | | | | | |
| Wharfage | | | | | | | | | | | | | |
| Rental hired tugs | | | | | | | | | | | | | |
| Repairs (inc. all items charged to D.V.rep'rs) | | | 34 60 | 55 45 | 9 81 | 4 55 | | 97 68 | 14 95 | 93 95 | 13 45 | 207 65 | 532 09 |
| Repairs—Extraordin'y. | | | | | | | | | | | | | |
| Totals | 78 66 | 1,024 42 | 940 57 | 1,273 17 | 1,244 41 | 591 65 | 932 69 | 240 39 | 19 95 | 93 95 | 13 45 | 276 40 | 6,729 71 |

### EXPENDITURE INCURRED WORKING AT:

| | Lockport. | Lister's Rapids. | Selkirk Slough. | | | | Totals. |
|---|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | $ cts. | | | | $ cts. |
| Wages—Dredge | 969 69 | 828 50 | 399 60 | | | | 2,197 79 |
| " Departmental tugs | 569 65 | 486 71 | 234 74 | | | | 1,291 10 |
| Provisions—Dredge | 260 26 | 222 37 | 107 25 | | | | 589 88 |
| " Departmental tugs | 130 13 | 111 18 | 53 63 | | | | 294 94 |
| Fuel—Dredge | 334 14 | 285 49 | 137 70 | | | | 757 33 |
| " Departmental tugs | 334 13 | 285 48 | 137 69 | | | | 757 30 |
| Stores and equipment—Dredge | 55 71 | 47 60 | 22 96 | | | | 126 27 |
| " " Departmental tugs | 55 71 | 47 60 | 22 95 | | | | 126 26 |
| Contingencies—Dredge | 12 52 | 10 70 | 5 16 | | | | 28 38 |
| " Departmental tugs | 12 52 | 10 69 | 5 16 | | | | 28 37 |
| Water—Dredge | | | | | | | |
| " Departmental tugs | | | | | | | |

| | | |

## MANITOBA—*Continued.*

### Departmental Dredge 'No. 203,' and Plant in Attendance.

| | April. | May. | June. | July. | August. | September. | October. | November. | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c.yds | | 3,182 | 4,828 | 3,925 | 3,973 | Nil. | 720 | | | | | | 16,628 |
| Kind of material | | Gravel, boulders. | Gravel, clay boulders. | Sand, clay, gravel, boulders. | Sand, clay, gravel, boulders. | | Gravel. | | | | | | |
| Total possible dredging time hours | 40 | 270 | 250 | 270 | 270 | 250 | 270 | | | | | | 1,690 |
| Hours actually dredging | | 145 | 228 | 209 | 143 | Nil. | 63 | | | | | | 788 |
| Per hour, actually dredging c. yds | | 21·9 | 21·17 | 18·78 | 27·78 | | 11·43 | | | | | | |

### Details of Expenditure.

| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | | 367 13 | 331 33 | 293 21 | 306 76 | 289 98 | 254 50 | 90 64 | | | | | 1,933 55 |
| Provisions | | 100 62 | 97 77 | 98 14 | 151 47 | 223 57 | 127 62 | 19 90 | | | | | 818 89 |
| Fuel | | | | | | 57 80 | 14 63 | 45 00 | | | | 43 20 | 160 63 |
| Stores and equipment | | 44 73 | 3 70 | 87 09 | 12 30 | 53 00 | 50 95 | 17 40 | | | | | 269 17 |
| Contingencies | | 16 50 | 6 54 | 6 00 | 6 00 | 60 00 | 5 00 | 10 50 | 7 35 | 20 00 | 10 00 | 20 15 | 168 04 |
| Water | | | | | | | | | | | | | |
| Pilotage and towage | | | | | | | | | | | | | |
| Wharfage | | | | | | | 20 00 | | | | | | 20 0 |
| Rental hired tugs | | | | | | | | | | | | | |
| Repairs (inc. all items charged to D.V. rep'rs) | | 8 18 | | | 3 00 | 13 82 | | | | | | | 25 00 |
| Repairs—Extraordin'y | | | | | | | | | | | | | |
| Totals | | 537 16 | 439 34 | 484 44 | 479 53 | 697 97 | 472 70 | 183 44 | 7 35 | 20 00 | 10 00 | 63 35 | 3,395 28 |

### Expenditure Incurred Working at:

| | Mossy River, | Snake Island | | | | | Totals. |
|---|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | | | | | $ cts. |
| Wages—Dredge and departmental tugs | 1,242 50 | 691 05 | | | | | 1,933 55 |
| Provisions—Dredge and departmental tugs | 526 22 | 292 67 | | | | | 818 89 |
| Fuel—Dredge and departmental tugs | 103 22 | 57 41 | | | | | 160 63 |
| Stores and equipment—Dredge and departmental tugs | 172 97 | 96 20 | | | | | 269 17 |
| Contingencies—Dredge and departmental tugs | 107 98 | 60 06 | | | | | 168 04 |
| Water—Dredge and departmental tugs | | | | | | | |
| Pilotage and towage—Dredge and departmental tugs | | | | | | | |
| Wharfage—Dredge and departmental tugs | | | | | | | 25 00 |
| Repairs—Dredge and departmental tugs | 10 29 | 14 71 | | | | | |
| Repairs, extraordianry—Dredge and departmental tugs | | | | | | | |

| | | |

## MANITOBA—*Continued.*

### Departmental Dredge 'No. 204,' and Plant in Attendance.

| | April. | May. | June. | July. | August. | September. | October. | November. | December | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c. yds. | | 7,120 | 10,417 | 13,275 | 11,230 | 11,106 | 17,219 | 2,160 | | | | | 72,527 |
| Kind of material | | Rock | Mud, sand | Mud, sand | Clay, sand boulders. | Clay | Clay, mud | Clay, mud | | | | | |
| Actual possible dredging time | 260 | 270 | 250 | 270 | 270 | 250 | 270 | 80 | | | | | 1,920 |
| Hours actually dredging | | 201 | 207 | 204 | 182 | 164 | 204 | 35 | | | | | 1,191 |
| Per hour, c. yds. actually dredging | | 35·42 | 50·32 | 66·00 | 61·70 | 67·72 | 85·66 | 61·71 | | | | | |

### Details of Expenditure.

| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | 445 93 | 744 97 | 745 00 | 797 00 | 744 99 | 745 00 | 745 00 | 177 64 | | | | | 5,145 53 |
| Provisions | 32 99 | 211 58 | 73 66 | 246 00 | 221 32 | 104 89 | 158 58 | 1 50 | 3 67 | | | 68 75 | 1,054 19 |
| Fuel | | 368 35 | 175 68 | 552 77 | 552 57 | 238 13 | 10 00 | | | | | | 2,166 25 |
| Stores and equipment | 178 54 | 55 04 | 23 45 | 74 35 | 40 96 | 5 90 | 13 25 | 106 00 | | | | | 495 49 |
| Contingencies | 9 05 | 8 50 | 14 50 | 8 00 | 8 00 | 8 00 | 13 75 | | | | | | 69 80 |
| Water | | | | | | | | | | | | | |
| Pilotage and towage | | | | | | | | | | | | | |
| Wharfage | | | | | | | | | | | | | 420 00 |
| Rental hired tugs | | 120 00 | 300 00 | | | | | | | | | | |
| Repairs (inc. all items charged to D.V.rep'rs | 53 20 | 140 70 | 43 15 | 75 | | | 50 00 | 71 00 | 236 98 | 46 65 | 109 06 | 1,084 42 | 1,835 91 |
| Repairs—Extraordin'y | | | | | | | | | | | | | |
| Totals | 719 71 | 1,647 14 | 1,375 44 | 1,678 87 | 1,767 84 | 1,101 92 | 990 58 | 356 14 | 240 65 | 46 65 | 109 06 | 1,153 17 | 14,187 17 |

### Expenditure Incurred Working at:

| | Lockport. | Winnipeg. | Gimli. | Willow Point. | Winnipeg Beach. | Selkirk. | | Totals. |
|---|---|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| Wages—Dredge | 606 07 | 1,102 79 | 470 77 | 131 60 | 1,121 32 | 126 03 | | 3,558 58 |
| " Departmental tugs | 270 28 | 491 79 | 209 94 | 58 68 | 500 06 | 56 20 | | 1,586 95 |
| Provisions—Dredge | 119 69 | 217 79 | 92 98 | 25 99 | 221 45 | 24 89 | | 702 79 |
| " Departmental tugs | 59 85 | 108 90 | 46 48 | 12 99 | 110 73 | 12 45 | | 351 40 |
| Fuel—Dredge | 184 47 | 335 66 | 143 29 | 40 06 | 341 30 | 38 36 | | 1,083 14 |
| " Departmental tugs | 184 47 | 335 65 | 143 29 | 40 05 | 341 29 | 38 36 | | 1,083 11 |
| Stores and equipment—Dredge | 42 20 | 76 78 | 32 78 | 9 16 | 78 07 | 8 78 | | 247 77 |
| " " Departmental tugs | 42 19 | 76 77 | 32 77 | 9 16 | 78 06 | 8 77 | | 247 72 |
| Contingencies—Dredge | 5 95 | 10 82 | 4 62 | 1 29 | 11 00 | 1 24 | | 34 92 |
| " Departmental tugs | 5 94 | 10 81 | 4 61 | 1 29 | 11 00 | 1 23 | | 34 88 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Water—Dredge | | | | | | | | |
| " Departmental tugs | | | | | | | | |
| Pilotage and towage—Dredge | | | | | | | | |
| " " Departmental tugs | | | | | | | | |
| Wharfage—Dredge | | | | | | | | |
| " Departmental tugs | | | | | | | | |
| Repairs—Dredge | 147 00 | 297 14 | 106 04 | 32 18 | 310 35 | 32 18 | | 924 89 |
| " Departmental tugs | 146 99 | 333 28 | 106 04 | 32 18 | 260 35 | 32 18 | | 911 02 |
| Repairs, extraordinary—Dredge | | | | | | | | |
| " " Departmental tugs | | | | | | | | |
| Rental of hired tugs | 110 00 | 310 00 | | | | | | 420 00 |
| Total expenditure—Dredge | 1,105 38 | 2,040 98 | 850 48 | 240 28 | 2,083 49 | 231 48 | | 6,552 09 |
| Total expenditure—Departmental tugs | 709 72 | 1,357 20 | 543 13 | 154 35 | 1,301 49 | 149 19 | | 4,215 08 |
| Total expenditure—Hired tugs | 110 00 | 310 00 | | | | | | 420 00 |
| Total—Complete expenditure | 1,925 10 | 3,708 18 | 1,393 61 | 394 63 | 3,384 98 | 380 67 | | 11,187 17 |
| Cubic yards removed | 7,126 | 23,397 | 8,278 | 3,247 | 27,845 | 2,640 | | 72,527 |
| Cost per cubic yard (calculated from total expenditure) | 27·4 cts. | 15·85 cts. | 16·83 cts. | 12·15 cts. | 12·16 cts. | 14·42 cts. | | 15·42 cts. |
| Cost per hour, actually dredging | $9.57½ | $9.24½ | $9.61 | $8.97 | $9.51 | $8.67 | | $9.39 |
| Kind of material | Rock | Mud and sand. | Sand and boulders. | Clay | Clay and mud | Clay and mud | | |
| Work commenced | May 1st | May 31st | Aug. 1st | Aug. 10, 12, 15, 23, 24, 29. | Aug. 31st | Oct. 31st | | |
| Work completed | May 30th | July 27th | Aug. 28th | Aug. 29th | Oct. 29th | Nov. 5th | | |

## DISTRIBUTION OF TIME IN HOURS.

| | H M | % of total. | H M | % of total. | H M | % of total. | H M | % of total. | H M | % of total. | H M | % of total. | H M | % of total. | H M | % of total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost by storms and weather | | | 4 00 | 2·6 | 29 00 | 26·60 | 4 00 | 14·81 | 96 00 | 38·55 | | | | | 133 00 | 18·24 |
| " repairs | 18 00 | 14·28 | 15 00 | 7·73 | 3 00 | 2·75 | | | 4 00 | 1·61 | | | | | 40 00 | 5·49 |
| " coaling | 10 00 | 7·93 | 14 00 | 7·22 | 9 00 | 8·26 | | | 15 00 | 6·2 | 4 00 | 16·66 | | | 52 00 | 7·13 |
| " watering | | | | | | | | | | | | | | | | |
| " tide and current | | | | | | | | | | | | | | | | |
| " cleaning plant | | | | | | | | | | | | | | | | |
| " cleaning boilers | 15 00 | 11·90 | 23 00 | 11·86 | 17 00 | 15·59 | | | 17 00 | 6·82 | | | | | 72 00 | 9·87 |
| " inspecting boilers | | | | | | | | | | | | | | | | |
| " holidays | 10 00 | 7·93 | 10 00 | 5·15 | | | | | 10 00 | 4·2 | | | | | 30 00 | 4·11 |
| " waiting on scows or tug | 4 00 | 3·17 | 5 00 | 2·57 | | | | | | | | | | | 9 00 | 1·24 |
| " waiting orders | | | | | | | | | | | | | | | | |
| " towing and preparing for work | 55 00 | 43·65 | 96 00 | 49·48 | 46 00 | 42·20 | 21 00 | 77·77 | 82 00 | 32·93 | 18 00 | 75·00 | | | 318 00 | 43·62 |
| " moving dredge and changing cut | 2 00 | 1·59 | 8 00 | 4·12 | | | | | | | | | | | 10 00 | 1·37 |
| " short of coal or supplies | | | | | | | | | | | | | | | | |
| " laying up | | | | | | | | | | | | | | | | |
| " miscellaneous | 7 00 | 5·55 | 14 00 | 7·22 | 5 00 | 4·59 | 2 00 | 7·40 | 13 00 | 5·22 | 2 00 | 8·33 | | | 43 00 | 5·90 |
| | 5 00 | 3·97 | 5 00 | 2·57 | | | | | 12 00 | 4·82 | | | | | 22 00 | 3·2 |
| Total lost time | 126 00 | | 194 00 | | 109 00 | | 27 00 | | 249 00 | | 24 00 | | | | 729 00 | |
| Time actually dredging | 201 00 | | 401 00 | | 145 00 | | 44 00 | | 356 00 | | 44 00 | | | | 1191 00 | |
| Possible dredging time | 327 00 | | 595 00 | | 254 00 | | 71 00 | | 506 00 | | 68 00 | | | | 1920 00 | |

*Names of Departmental Tugs included in expenditure, dates between which employed, and localities:*—Tug *Lisgar*, from April 29 to May 18, at Lockport; tug *Sir Hector*, from July 28 to August 10, at Gimli; tug *Peguis*, from Aug. 30 to Oct. 29, at Winnipeg Beach; tug *Sir Hector*, July 1 to July 27, at Winnipeg; tug *Peguis*, from August 11 to August 29, at Gimli; tug *Peguis*, from Oct. 30 to Nov. 5, at Selkirk.

*Names of Rented Tugs included in expenditure, dates between which employed, and localities:*—Tug *Fisherman*, from May 19 to May 30, at Lockport; from May 31 to June 30, at Winnipeg

*Date Dredge put in commission:*—April 1. *Dredge laid up for winter at* Selkirk, Man., Nov. 9, 1912.

*Remarks:*—April 30, 1912, towed from Selkirk to Lockport by tug *Lisgar;* May 31, 1912, towed from Lockport to Winnipeg by tug *Fisherman;* July 29, 1912, towed from Winnipeg to Gimli by tug *Sir Hector;* Aug. 30, 1912, towed from Gimli to Winnipeg Beach by tug *Peguis;* Oct. 30, towed from Winnipeg Beach to Selkirk by tug *Peguis*.

## MANITOBA—*Concluded.*

### DEPARTMENTAL DREDGE NO. 205,' AND PLANT IN ATTENDANCE.

| — | April. | May. | June. | July. | August. | September. | October. | November. | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c.yds | ..... | 6,160 | 3,017 | 2,041 | 9,165 | 7,614 | 15,229 | 776 | ..... | ..... | ..... | ..... | 44,002 |
| Kind of material | ..... | Rock..... | Rock, gravel, mud. | Hard pan, rock. | Gravel, stones, hard pan. | Gravel, stones, hard pan, boulders. | Gumbo, sand, mud. | Clay..... | ..... | ..... | ..... | ..... | ..... |
| Total possible dredging time | H. M. 260 00 | H. M. 270 00 | H. M. 250 00 | H. M. 270 00 | H. M. 270 00 | H. M. 250 00 | H. M. 270 00 | H. M. 50 00 | ..... | ..... | ..... | ..... | H. M. 1,890 00 |
| Hours actually dredging | ..... | 196 00 | 126 00 | 221 00 | 242 00 | 199 00 | 181 00 | 10 00 | ..... | ..... | ..... | ..... | 1,175 00 |
| Per hour, actually dredging.....c. yds. | ..... | 31·43 | 23·94 | 9·23 | 37·87 | 38·26 | 84·13 | 77·6 | ..... | ..... | ..... | ..... | ..... |

### DETAILS OF EXPENDITURE.

| | $ cts | $ cts. | $ cts | $ cts | $ cts. | $ cts. | $ cts. | $ cts. | $ cts | $ cts. | $ cts. | $ cts. | $ cts |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | 474 30 | 847 00 | 783 16 | 795 00 | 794 99 | 795 00 | 795 00 | 154 99 | ..... | ..... | ..... | ..... | 5,439 44 |
| Provisions | 32 96 | 223 02 | 152 56 | 108 10 | 345 75 | 89 87 | 190 08 | 19 15 | 6 36 | ..... | ..... | ..... | 1,167 85 |
| Fuel | 487 32 | ..... | 571 14 | 151 97 | 579 50 | 199 06 | ..... | ..... | ..... | ..... | ..... | 68 75 | 2,057 74 |
| Stores and equipment | 107 94 | 201 40 | 28 05 | 99 82 | 34 35 | 53 26 | 43 66 | 3 70 | ..... | 160 55 | ..... | ..... | 732 73 |
| Contingencies | 15 75 | 8 00 | 9 80 | 15 40 | 14 25 | 8 00 | 8 00 | 49 85 | ..... | ..... | ..... | 50 55 | 179 60 |
| Water | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Pilotage and towage | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Wharfage | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Rental hired tugs | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Repairs (inc. all items charged to D.V. rep'rs) | 70 88 | 5 75 | 185 35 | ..... | 28 65 | ..... | ..... | 105 76 | 62 00 | 240 51 | 7 65 | 108 25 | 814 80 |
| Repairs—Extraordinary | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Totals | 1,189 15 | 1,285 17 | 1,730 06 | 1,170 29 | 1,797 49 | 1,145 19 | 1,036 74 | 333 45 | 68 36 | 401 06 | 7 65 | 227 55 | 10,392 16 |

### EXPENDITURE INCURRED WORKING AT:

| — | Lockport. | Sugar Point. | Lister's Rapid | Mouth of River. New Channel | Selkirk Slough. | — | — | Totals. |
|---|---|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | $ cts. | $ cts | $ cts | $ cts | $ cts. | $ cts |
| Wages—Dredge | 915 84 | 1,401 27 | 740 93 | 593 53 | 62 89 | ..... | ..... | 3,714 46 |
| " Departmental tugs | 425 31 | 650 75 | 344 08 | 275 63 | 29 21 | ..... | ..... | 1,724 98 |
| Provisions—Dredge | 191 97 | 293 71 | 158 63 | 124 40 | 13 18 | ..... | ..... | 781 89 |
| " Departmental tugs | 95 98 | 146 86 | 74 32 | 62 21 | 6 59 | ..... | ..... | 385 96 |
| Fuel—Dredge | 253 68 | 388 14 | 205 23 | 164 40 | 17 42 | ..... | ..... | 1,028 87 |
| " Departmental tugs | 253 68 | 388 14 | 205 23 | 164 40 | 17 42 | ..... | ..... | 366 37 |
| Stores and equipment—Dredge | 90 33 | 138 21 | 73 08 | 58 54 | 6 21 | ..... | ..... | 366 36 |
| " Departmental tugs | 90 33 | 138 21 | 73 08 | 58 54 | 6 20 | ..... | ..... | 89 81 |
| Contingencies—Dredge | 22 14 | 33 88 | 17 92 | 14 35 | 1 52 | ..... | ..... | 89 79 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Chntingencies—Departmental tugs | 22 14 | 33 87 | 17 91 | 14 35 | 1 52 | | | | |
| Water—Dredge and departmental tugs | | | | | | | | | |
| Pilotage and towage—Dredge and departmental tugs | | | | | | | | | |
| Wharfage—Dredge and departmental tugs | | | | | | | | | |
| Repairs—Dredge | 118 70 | 147 32 | 81 77 | 55 56 | 4 06 | | | | 407 41 |
| " Departmental tugs | 118 70 | 147 31 | 81 77 | 55 55 | 4 06 | | | | 407 39 |
| Repairs, extraordinary—Dredge and departmental tugs | | | | | | | | | |
| Rental of hired tugs | | | | | | | | | |
| Total expenditure—Dredge | 1,592 66 | 2,402 53 | 1,277 56 | 1,010 78 | 105 28 | | | | 6,388 81 |
| Total expenditure—Departmental tugs | 1,006 14 | 1,505 14 | 796 39 | 630 68 | 65 00 | | | | 4,003 35 |
| Total expenditure—Hired tugs | | | | | | | | | |
| Total—complete expenditure | 2,598 80 | 3,907 67 | 2,073 95 | 1,641 46 | 170 28 | | | | 10,392 16 |
| Cubic yards removed | 7,129 | 18,525 | 2,343 | 14,938 | 1,067 | | | | 44,002 |
| Cost per cu. yd. (calculated from total expenditure) | 36·45 cts. | 21·9 cts. | 88·52 cts. | 10·99 cts. | 15·96 cts. | | | | 23·57 cts |
| Cost per hour actually dredging | $10·39½ | $8·28 | $7·91½ | $9·22 | $13·10 | | | | $8·84¼ |
| Kind of material | Rock | Gravel, stones, hard pan, boulders. | Rock | Gumbo, sand, mud. | Clay | | | | |
| Work commenced | May 1-June 14 | June 1-July 30 | June 24th | Sept. 30th | Oct. 30th | | | | |
| Work completed | May 31-June22 | June 7-Sept. 29 | July 29th | Oct. 29th | Nov. 1st | | | | |

DISTRIBUTION OF TIME IN HOURS.

| | H. M. | % of total. | H M. | % of total. | H. M. | % of total. | H. M. | % of total. | H. M. | % of total. | M. H. | % of total. | H. M. | % of total. | H. M. | % of total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost by storms and weather | 1 00 | 0·4 | 6 | | | | | | 37 00 | 29·85 | | | | | 38 00 | 5·31 |
| " repairs | 82 00 | 37·96 | 46 00 | 19·9 | 16 00 | 13·91 | 10 00 | 8·6 | | | | | | | 154 00 | 21·54 |
| " coaling | 5 00 | 2·31 | | | | | 2 00 | 1·61 | | | | | | | 7 00 | 0·98 |
| " watering | | | | | | | | | | | | | | | | |
| " tide and current | | | | | | | | | | | | | | | | |
| " cleaning plant | | | | | | | | | | | | | | | | |
| " cleaning boilers | 8 00 | 3·70 | 17 00 | 7·5 | 9 00 | 7·82 | 7 00 | 5·64 | | | | | | | 41 00 | 5·73 |
| " inspecting boilers | | | | | | | | | | | | | | | | |
| " holidays | 10 00 | 4·63 | 10 00 | 4·15 | 10 00 | 8·69 | | | | | | | | | 30 00 | 4·20 |
| " waiting on scows or tug | | | | | | | | | | | | | | | | |
| " waiting orders | | | | | | | | | | | | | | | | |
| " towing and preparing for work | 80 00 | 37·4 | 149 00 | 61·83 | 64 00 | 55·65 | 65 00 | 44·35 | 19 00 | 100·00 | | | | | 367 00 | 51·33 |
| " moving dredge and changing cut | 13 00 | 6·2 | 3 00 | 1·24 | 6 00 | 5·22 | 7 00 | 5·64 | | | | | | | 29 00 | 4·6 |
| " short of coal or supplies | | | | | | | | | | | | | | | | |
| " laying up | 9 00 | 4·17 | 16 00 | 6·64 | 9 00 | 7·83 | 6 00 | 4·84 | | | | | | | 40 00 | 5·59 |
| " miscellaneous | 8 00 | 3·70 | | | 1 00 | ·87 | | | | | | | | | 9 00 | 1·26 |
| Total lost time | 216 00 | | 241 00 | | 115 00 | | 124 00 | | 19 00 | | | | | | 715 00 | |
| Time actually dredging | 250 00 | | 472 00 | | 262 00 | | 178 00 | | 13 00 | | | | | | 1175 00 | |
| Possible dredging time | 466 00 | | 713 00 | | 377 00 | | 302 00 | | 32 00 | | | | | | 1890 00 | |

*Names of Departmental Tugs included in expenditure and dates between which employed, and localities.*—Tug *Friday*, 1st May to 31st May, at Lockport; from June 1st to 7th at Sugar Point from 8th to 13th June at Selkirk Slough; from 14th to 23rd June at Lockport; from 24th June to 29th July at Lister's Rapids; from 30th July to 29th Sept. at Sugar Point; from 30th Sept. to Oct;. 29th at mouth of river; from 30th Oct. to 1st Nov. at Selkirk Slough.

*Names of Rented Tugs included in expenditure and dates between which employed, and localities.*—None.

*Date Dredge put in Commission.*—April 1. *Dredge laid up for winter at* Selkirk, Man., Nov. 6, 1912.

*Remarks.*—April 30, 1912, towed from Selkirk to Lockport by tug *Friday;* June 1, 1912, towed from Lockport to Sugar Point by tug *Friday;* June 8, 1912, towed from Sugar Point to Selkirk Slough by tug *Friday;* June 14, 1912, towed from Selkirk to Lockport by tug *Friday;* June 22, 1912, towed from Lockport to Lister's Rapids by tug *Friday;* July 30, 1912, towed from Lister's Rapids to Sugar Point by tug *Friday;* Sept. 30, 1912, towed from Sugar Point to mouth of river by tug *Friday;* Oct. 30, 1912, towed from mouth of river to Selkirk by tug *Friday.*

# SASKATCHEWAN.

## Departmental Dredge 'No. 207,' and Plant in Attendance.

| | April. | May. | June. | July. | August. | September. | October. | November. | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c. yds | | 1,210 | 4,018 | 5,168 | 5,242 | 2,389 | | | | | | | 18,027 |
| Kind of material | | Gravel and gumbo. | Gumbo with some sand and gravel | Gumbo and hard clay | Hard clay, with gravel. | Clay, stone | | | | | | | |
| Total possible dredging time.....hours | | Hours. 130 | Hours. 250 | Hours. 270 | Hours. 260 | Hours. 230 | | | | | | | 1,140 |
| Hours actually dredging | | 41¾ | 86 | 108 | 123¾ | 57½ | | | | | | | 416¼ |
| Per hour actually dredging.....c. yds. | | 28·98 | 46·72 | 47·85 | 42·53 | 41·55 | | | | | | | |

## Details of Expenditure.

| | April. | May. | June. | July. | August. | September. | October. | November. | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| Wages | 8 00 | 378 29 | 621 67 | 613 69 | 635 00 | 515 17 | 75 00 | 55 50 | 50 00 | 60 00 | 50 00 | 60 00 | 3,122 32 |
| Provisions | | 130 79 | 143 62 | 213 53 | 101 32 | 98 96 | | | | | | | 688 22 |
| Fuel | | 286 46 | 375 15 | 527 26 | 377 43 | | | | | | | | 1,566 30 |
| Stores and equipment | | 23 20 | 11 00 | 6 30 | 22 50 | 87 01 | | | | | | | 150 01 |
| Contingencies | 17 90 | 1 00 | 16 25 | 43 16 | 61 82 | 40 10 | | | | | 0 25 | | 180 48 |
| Water | | | | | | | | | | | | | |
| Pilotage and towage | | | | | | | | | | | | | |
| Wharfage | | | | | | | | | | | | | |
| Rental hired tugs | | | | | | | | | | | | | |
| Repairs (inc. all items charged to D.V. rep'rs) | 743 18 | 303 10 | 125 41 | 86 95 | 7 55 | | | | | | | | 1,266 19 |
| Repairs—Extraordin'y | | | | | | | | | | | | | |
| Totals | 769 08 | 1,122 84 | 1,293 10 | 1,490 89 | 1,205 62 | 741 24 | 75 00 | 55 50 | 50 00 | 60 00 | 50 25 | 60 00 | 6,973 52 |

## Expenditure Incurred Working at Last Mountain Lake, Sask.

| | Valeport, Sask. | | | | | | | | Totals. |
|---|---|---|---|---|---|---|---|---|---|
| | $ cts. | | | | | | | | $ cts. |
| Wages—Dredge | 2,166 50 | | | | | | | | 2,166 50 |
| " Departmental tugs | 955 82 | | | | | | | | 955 82 |
| Provisions—Dredge | 458 82 | | | | | | | | 458 82 |
| " Departmental tugs | 229 40 | | | | | | | | 229 40 |
| Fuel—Dredge | 1,044 20 | | | | | | | | 1,044 20 |
| " Departmental tugs | 522 10 | | | | | | | | 522 10 |
| Stores and equipment—Dredge | 150 01 | | | | | | | | 150 01 |
| " " Departmental tugs | | | | | | | | | |
| Contingencies—Dredge | 180 48 | | | | | | | | 18043 |
| " Departmental tugs | | | | | | | | | |

| | | |

# ALBERTA.

## Departmental Dredge 'No. 206,' and Plant in Attendance.

| — | April. | May. | June. | July. | August. | September. | October. | November. | December. | January. | February. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Material handled, c.yds | | | | | | | | | | | | | |
| Kind of material | | | Gumbo. | Gumbo. | Mud, sand, gravel. | Gumbo..... | Gumbo..... | | | | | | |
| Total possible dredging time | | | H. M. 240 00 | H. M. 260 00 | H. M. 270 00 | H. M. 250 00 | H. M. 110 00 | | | | | | H. M. 1,130 00 |
| Hours actually dredging | | | 228 00 | 202 00 | 139 00 | 218 00 | 14 00 | | | | | | 801 00 |
| Per hour, actually dredging, c yds. | | | 48·31 | 50·72 | 28·27 | 30·59 | 8·78 | | | | | | |

## DETAILS OF EXPENDITURE.

| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Wages | 45 00 | 264 48 | 375 00 | 375 00 | 375 00 | 375 00 | 182 16 | 45 00 | 45 00 | 45 00 | 45 00 | 45 00 | 2,216 64 |
| Provisions | 9 20 | 170 65 | 172 59 | 170 26 | 210 67 | 165 58 | 70 71 | 21 30 | 20 60 | 33 95 | ..... | 18 10 | 1,063 61 |
| Fuel | 440 00 | ..... | 80 00 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 825 00 | 1,345 00 |
| Stores and equipment | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 11 50 | 65 00 | 241 98 | 318 48 |
| Contingencies | ..... | 105 80 | 31 00 | ..... | ..... | ..... | ..... | 73 10 | 2 00 | ..... | ..... | 12 00 | 223 90 |
| Water | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Pilotage and towage | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Wharfage | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Rental hired tugs | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Repairs (inc all items charged to D.V. rep'rs) | ..... | ..... | 7 90 | 26 25 | 11 50 | 10 00 | ..... | ..... | ..... | ..... | ..... | ..... | 45 65 |
| Repairs—Extraordinary | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 1,234 36 | 1,234 36 |
| Totals | 494 20 | 540 93 | 666 49 | 571 51 | 587 17 | 550 58 | 252 87 | 139 40 | 67 60 | 90 45 | 110 00 | 2,376 44 | 6,447 64 |

## EXPENDITURE INCURRED WORKING AT GROUARD, ALBERTA.

| — | Grouard, Alta. | — | — | — | — | — | — | Totals. |
|---|---|---|---|---|---|---|---|---|
| | $ cts | $ cts. | $ cts. | $ cts | $ cts. | $ cts. | $ cts | $ cts |
| Wages—Dredge and departmental tugs | 2,216 64 | | | | | | | 2,216 64 |
| Provisions—Dredge and departmental tugs | 1,063 61 | | | | | | | 1,063 61 |
| Fuel—Dredge and departmental tugs | 1,345 00 | | | | | | | 1,345 00 |
| Stores and equipment—Dredge and departmental tugs | 298 29 | | | | | | | 298 29 |
| Contingencies—Dredge and departmental tugs | 244 09 | | | | | | | 244 09 |
| Water—Dredge and departmental tugs | | | | | | | | |
| Pilotage and towage—Dredge and departmental tugs | | | | | | | | |
| Wharfage—Dredge and departmental tugs | | | | | | | | |
| Repairs—Dredge and departmental tugs | 45 65 | | | | | | | 45 65 |
| Repairs, extraordinary—Dredge and departmental tugs | 1,234 36 | | | | | | | 1,234 36 |
| Rental of hired tugs | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total expenditure—Dredge and departmental tugs | 6,447 64 | | | | | | | | | | | | | | | | | | 6,447 64 | |
| Total expenditure—Hired tugs | | | | | | | | | | | | | | | | | | | | |
| Total—complete expenditure | 6,447 64 | | | | | | | | | | | | | | | | | | 6,447 64 | |
| Cubic yards removed | 31,984 | | | | | | | | | | | | | | | | | | 31,984 | |
| Cost per cu. yd. (calculated from total expenditure) | $0·20 | | | | | | | | | | | | | | | | | | $0·20 | |
| Cost per hour actually dredging | $8·05 | | | | | | | | | | | | | | | | | | $8·05 | |
| Kind of material | Generally gumbo. | | | | | | | | | | | | | | | | | | | |
| Work commenced | June 3, 1912 | | | | | | | | | | | | | | | | | | | |
| Work completed | Oct. 5, 1912 | | | | | | | | | | | | | | | | | | | |

## DISTRIBUTION OF TIME IN HOURS.

| | H. M. | % of total. | H. M. | % of total | H. M. | % of total. | H. M. | % of total. | H. M. | % of total. | H. M. | % of total. | H. M. | % of total. | H. M. | % of total. | H. M. | % of total. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Lost by storms and weather | 50 00 | 44·2 | | | | | | | | | | | | | | | 50 00 | 44·2 |
| " repairs | 130 00 | 11·50 | | | | | | | | | | | | | | | 130 00 | 11·50 |
| " coaling | 5 00 | 0·44 | | | | | | | | | | | | | | | 5 00 | 0·44 |
| " watering | | | | | | | | | | | | | | | | | | |
| " tide and current | | | | | | | | | | | | | | | | | | |
| " cleaning plant | 5 00 | 0·44 | | | | | | | | | | | | | | | 5 00 | 0·44 |
| " cleaning boilers | 51 00 | 4·51 | | | | | | | | | | | | | | | 51 00 | 4·51 |
| " inspecting boilers | | | | | | | | | | | | | | | | | | |
| " holidays | 10 00 | 0·88 | | | | | | | | | | | | | | | 10 00 | 0·88 |
| " waiting on scows or tug | | | | | | | | | | | | | | | | | | |
| " waiting orders | | | | | | | | | | | | | | | | | | |
| " towing and preparing for work | | | | | | | | | | | | | | | | | | |
| " moving dredge and changing cut | 78 00 | 6·90 | | | | | | | | | | | | | | | 78 00 | 6·90 |
| " short of coal or supplies | | | | | | | | | | | | | | | | | | |
| " Fog | | | | | | | | | | | | | | | | | | |
| " miscellaneous | | | | | | | | | | | | | | | | | | |
| Total lost time | 329 00 | | | | | | | | | | | | | | | | 329 00 | |
| Time actually dredging | 801 00 | | | | | | | | | | | | | | | | 801 00 | |
| Possible dredging time | 1130 00 | | | | | | | | | | | | | | | | 1130 00 | |

*Names of Departmental Tugs included in expenditure, dates between which employed, and localities*:—No departmental tugs employed.
*Names of Rented tugs included in expenditure, dates between which employed, and localities*:—No rented tugs employed.
*Date Dredge put in Commission.*—May 15, 1912. *Dredge laid up for winter at* Grouard, Alta., Oct. 15, 1912.
*Remarks.*—Fuel, $80, paid this year for fiscal year 1911-12; also $31 in Contingencies for board 1911-12, C. Hilker. Contingencies contain travelling expenses, $825, paid for fire wood for fiscal year 1913-14 included in this list. Contingencies for March contain item of $12 for washing and cleaning of dredge. Cubic yards removed calculated from weekly reports (scow measurement) = 31,984; by place measurement, 33,923.

# DEPARTMENT OF PUBLIC WORKS, CANADA.

*Dredging Department, Vancouver, B.C.*

## Cost of operation of B. C. Dredging Fleet, for Twelve Months ending March 31, 1913.

| —— | Payroll. | Provisions and Ice. | Boarding Equipment | Laundry. | Engine-room Supplies. | Hardware and Ship Chandlery. | Coal. | Water. | Drilling Supplies. | Dynamite. |
|---|---|---|---|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| Dredge *Fruhling* | 16,044 14 | 4,516 67 | 96 75 | 86 70 | 934 69 | 884 18 | 12,855 93 | ... | ... | ... |
| Dredge *King Edward* | 15,777 68 | 4,305 06 | 86 00 | 85 60 | 744 52 | 1,483 93 | 8,926 05 | 32 91 | ... | ... |
| Dredge *Mastodon* | 34,103 58 | 9,944 95 | 179 00 | 176 79 | 3,214 83 | 6,181 55 | 9,689 96 | 106 00 | ... | ... |
| Dredge *Ajax* | 15,209 26 | 6,596 04 | 554 59 | 164 97 | 514 55 | 2,367 62 | 9,504 72 | 118 15 | ... | ... |
| Dredge *Mudlark* | 11,955 76 | 4,586 90 | 186 55 | 37 24 | 868 22 | 1,600 84 | 2,155 00 | 98 75 | ... | ... |
| *Lobnitz Rock Breaker No. 1* | 8,676 70 | 2,628 54 | 214 97 | 47 18 | 108 79 | 846 29 | 2,917 00 | 6 65 | ... | ... |
| Submarine Drilling Plant | 10,508 60 | ... | ... | ... | ... | 974 38 | 155 25 | ... | 515 15 | 1,640 75 |
| Snagboat *Samson* | 4,782 11 | 1,652 09 | 103 30 | 32 00 | 149 16 | 564 09 | 1,431 85 | ... | ... | ... |
| Snagboat *Cygnet* | 6,289 74 | 2,208 18 | 58 91 | ... | 7 54 | 705 89 | 991 25 | ... | ... | ... |
| Snagboat *Naas River* | 3,225 92 | 1,024 87 | ... | ... | ... | 177 64 | 467 50 | ... | ... | ... |
| Tug *Petrel* | 6,016 46 | 335 14 | 104 10 | 5 25 | 454 77 | 1,024 54 | ... | ... | ... | ... |
| Tug *Point Garry* | 2,367 42 | 65 06 | 26 00 | 10 40 | 668 50 | 178 54 | 144 26 | ... | ... | ... |
| Tug *Point Hope* | 6,996 53 | 1,379 44 | 25 50 | 16 65 | 325 44 | 581 24 | 554 26 | 1 20 | ... | ... |
| Tug *Point Ellice* | 7,615 29 | 1,768 20 | 104 58 | 41 40 | 444 84 | 1,273 97 | 1,526 05 | ... | ... | ... |
| Tug *Point Grey* | 11,371 09 | 4,049 54 | 155 71 | 64 04 | 757 82 | 1,968 45 | 1,230 79 | ... | ... | ... |
| Dredge *Pelican* | | | | | | | | | | |
| Dredge *Heron* | | | | | | | | | | |
| Dredge *Nakusp* | Interior Division—No details available. | | | | | | | | | |
| Dredge *Bittern* | | | | | | | | | | |
| Dredge *Sheldrake* | | | | | | | | | | |
| Miscellaneous items (charged direct to "Dredging, B.C.") | 2,898 57 | 39 00 | ... | ... | 21 53 | 13 25 | 20 67 | 253 13 * | ... | ... |
| | 164,818 85 | 45,008 68 | 1,873 56 | 767 42 | 8,830 27 | 19,815 34 | 54,903 54 | 616 79 | 515 15 | 1,640 75 |

* Includes water for *Fruhling* and *King Edward*.

Cost of operation of B. C. Dredging Fleet, for Twelve Months ending March 31, 1913—*Continued.*

| | Tug Hire. | Miscellaneous. | New Equipment | Travelling Expenses. | Scow Hire. | Repairs to Tug. | Repairs to Scows. | Repairs to Dredges. | Total Maintenance. | Total cost Operation. |
|---|---|---|---|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. | $ cts. |
| Dredge *Frahling* | | 85 12 | 550 20 | | | | | 11,601 03 | 36,054 38 | 47,655 41 |
| Dredge *King Edward* | 120 00 | 1,270 15 | 403 95 | 67 35 | | | 195 60 | 14,091 30 | 33,303 20 | 47,590 03 |
| Dredge *Mastodon* | 950 00 | 2,959 14 | 1,318 45 | 2 80 | 782 00 | 336 00 | 8,748 98 | 29,775 69 | 69,608 05 | 108,468 72 |
| Dredge *Ajax* | | 890 19 | 145 00 | 75 | 170 00 | | 7,110 44 | 7,427 87 | 36,145 14 | 50,683 45 |
| Dredge *Mudlark* | | 567 79 | | 9·95 | | | 1,651 28 | 10,024 91 | 23,046 77 | 34,722 96 |
| Robintz Rock Breaker *No. 1* | 894 00 | 366 65 | 9·57 | 30 90 | | | | 4,579 74 | 16,747 24 | 21,326 98 |
| Submarine Drilling plant | 12 00 | 360 76 | | | | | | 1,475 96 | 14,167 09 | 15,643 05 |
| Snagboat *Samson* | | 3 00 | | | | | | | | |
| Snagboat *Cygnet* | 35 00 | 298 04 | | 151 70 | | | | 82 65 | 8,517 90 | 86,00 55 |
| Snagboat *Naas River* | | 375 46 | | 84 61 | | | | 2,191 99 | 10,729 02 | 12,921 01 |
| | | | | | | | | 129 70 | 5,356 00 | 5,485 70 |
| Tug *Petrel* | 31 86 | | | 1 50 | | 4,074 46 | | | 7,773 42 | 11,847 88 |
| Tug *Point Garry* | | 115 10 | | | 60 00 | 694 52 | | | 3,854 25 | 4,548 77 |
| Tug *Point Hope* | | 249 60 | | 4 35 | | 2,088 37 | | | 10,232 21 | 12,320 58 |
| Tug *Point Ellice* | | 270 60 | | 11 50 | | 2,113 73 | | | 12,996 13 | 15,109 86 |
| Tug *Point Grey* | | 782 20 | | 3 50 | | 5,557 24 | | | 21,458 14 | 27,015 38 |
| Dredge *Pelican* | | | | | | | | 170 10 | 10,127 98 | 10,298 08 |
| Dredge *Heron* | | | | | | | | 500 25 | 8,571 63 | 9,071 88 |
| Dredge *Nakusp* | | | | | | | | | 9,299 41 | 9,299 41 |
| Dredge *Bittern* | | | | | | | | | 15,659 84 | 15,659 84 |
| Dredge *Sheldrake* | | | | | | | | 218 45 | 7,418 54 | 7,636 99 |
| Miscellaneous items (charged direct to Dredging B C.') | 1,515 00 | 7,120 57 | Supt. and Office. 913 12 | 984 03 | | | | | 13,778 87 | 13,778 87 |
| | 3,526 00 | 11,746 23 | 3,340 29 | 1,352 94 | 1,012 00 | 14,864 32 | 17,706 30 | 82,269 57 | 374,845 21 | 489,685 40 |

## Performance of Dipper Dredge *Mudhark* for the Twelve Months, April 1, 1912, to March 31, 1913.

(Totals for both Shifts—Night Shift commenced Nov. 19, 1913.)

| | April. | May. | June. | July. | Aug. | Sept. | Oct. | Nov. | Dec. | Jan. | Feb. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cubic yards material handled | 11,9 0 | 600 | 7,900 | 11,140 | 10,7 0 | 10,700 | 8,50 | 10,55 | 14.05 | | | 14,150 | 109,590 |
| Kind o material | Clay. | Clay. | | 190 R. | Mud. | | | | | | | Mud, Clay | |
| | M. St. | | | 10,950 C. | Clay. | | | | | | | Gravel. | 3,090.5 |
| | 210 | 219.5 | 295.5 | 283 | 234 | 290.5 | 238.5 | 281 | 327 | 229 | 210 | 392.5 | 1,290 |
| Total hours on duty | 132 | 113.5 | 86 | 166.5 | 116.5 | 145 | 91 | 138.5 | 159 | | | 184 | 84 |
| Hours actually dredging | 90 | 84 | 92 | 68 | 92 | 93 | 93 | 76 | 88 | | | 78 | |
| Yards per hour actually dredging | 62.9 | 51.8 | 44.8 | 57.8 | 49.8 | 57.4 | 38.1 | 49.8 | 42.2 | | | 52.2 | 41.9 |
| Per cent time actua y dredging | 8.1 | | 8.8 | 11.7 | 8.1 | 14.2 | 5.6 | 9.3 | 8.6 | 100.0 | 1 0.0 | 10.01 | 8.0 |
| Per cent time los moving to and from place of working | 33.5 | 18.7 | 18.7 | 10.1 | 18.4 | 2.5 | 30.0 | 21.0 | 17.9 | | | 6.7 | 29.0 |
| Per cent time lost account repairs to dredge | | | | | | 3.0 | 1.0 | | 0.7 | | | | 0.3 |
| Per cent time lost account repairs for tug | | | | | | | | | | | | | 0.3 |
| Per cent time lost account repairs to scows | 0.7 | 2.5 | 0.5 | 1.7 | 1.1 | | 0.2 | 0.2 | 0.1 | | | | 0.3 |
| Per cent time lost account trouble with scows | | | 1.1 | | 1.1 | | | 7.33 | 9.7 | | | 11.6 | 1.1 |
| Per cent time lost waiting for scows (tug service) | 1.8 | 1.8 | 3.3 | 3.0 | 2.3 | 3.2 | 1.7 | | 12.5 | | | 1.0 | 2.8 |
| Per cent time lost adjusting machinery or dredge | 1.9 | 4.3 | | 0.7 | | | 5.9 | | | | | | 1.9 |
| Per cent time lost account of wind | 0.9 | 2.7 | 4.6 | 10.4 | 1.9 | | | | | | | | |
| Per cent time lost account of tide | | | | | | | | | 4.5 | | | 3.3 | 4.9 |
| Per cent time lost account of fog | | | | 3.3 | 6.2 | 11.2 | 4.0 | 3.4 | | | | 5.7 | 2.2 |
| Per cent time lost accounts coaling | 9.3 | 6.4 | 4.6 | | | | 4.0 | 3.4 | | | | 6.5 | 3.8 |
| Per cent time lost washing boilers | 4.5 | | 9.2 | | | | 3.5 | 6.1 | 3.8 | | | | |
| Per cent time lost, washing boilers | 3.1 | 3.6 | 2.1 | 3.0 | 7.5 | 5.5 | | | | | | | |
| Per cent time lost account miscellaneous causes | | | | | | | | | | | | | |

## Performance of Dipper Dredge *Ajax* for the Twelve Months, April 1, 1912, to March 31, 1913.

Totals for Night and Day Shift—Night Shift commenced November 19, 1912.

| | April. | May. | June. | July. | August. | Sept. | Oct. | Nov. | Dec. | January. | February | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cubic yards material handled | 19,415 | 15,440 | 8,895 | 20,650 | 23,825 | 10,655 | 17,170 | 23,620 | 17,820 | 31,510 | 31,715 | 23,155 | 243,870 |
| Kind of material | 1,440 H.P<br>60 Rock<br>7,915 Clay | S. G<br>St. H.P. | 1,330 R.<br>7,565 C. | G S R.<br>S. Coal. | S. G<br>C. Dross. | S G.B.<br>HP C. | R. C.<br>HP. S. G | G S C.<br>HP. R. | R. HP.<br>Clay. | C. HP.<br>G. R. | HP. R.<br>Gravel. | HP. R.<br>Gravel. | |
| Total hours on duty | 210 | 219·5 | 210·25 | 229 | 234 | 205 | 238·5 | 319 | 398 | 460 | 420 | 373·5 | 3,517·75 |
| Hours actually dredging | 121·75 | 95 | 85·75 | 121·75 | 146·25 | 59·2 | 140·5 | 162·75 | 123 25 | 224 | 238 | 142·25 | 1,650 50 |
| Yards per hour actually dredging | 159 | 162 | 104 | 161 | 175 | 180 | 122 | 145 | 144 | 141 | 133 | 162 | 147 |
| Per cent time actually dredging | 58 0 | 43·3 | 40·8 | 53·2 | 58·3 | 28·8 | 58·9 | 51·0 | 31·0 | 48·7 | 56·7 | 38·1 | 47·2 |
| Per cent time lost m ving to and from place of working | 2·0 | 2·3 | 21·5 | 1·2 | 1·4 | 10·1 | 5·5 | 1·7 | 0·9 | 1·4 | 2·1 | 2·5 | 4·4 |
| Per cent time lost account repairs to dredge | 8·1 | 35·6 | 13·3 | 4·1 | 9·6 | 45·7 | 5·0 | 14·5 | 36·0 | 18·9 | 13·4 | 22·0 | 19·7 |
| Per cent time lost account repairs to tug | 0·2 | | | 5·1 | | | | | | | | 0·3 | 0·5 |
| Per cent time lost account repairs to scows | | | 2·5 | 1·2 | 0·5 | 3·0 | | | 0·2 | | | | 0·6 |
| Per cent time lost account trouble with scows | 10·0 | 6·8 | 0·8 | 2·3 | 1·1 | 1·8 | 4·1 | 2·7 | 1·1 | 3·5 | 1·8 | 3·3 | 3·3 |
| Per cent of time lost waiting for scows (tug service) | | 0·5 | 7·1 | 0·3 | 0·1 | 0·9 | 1·2 | 0·6 | 0·6 | 0·5 | 0·3 | 1·8 | 1·2 |
| Per cent of time lost adjusting machinery of dredge | 1·0 | 0·3 | 1·4 | 1·1 | 0·9 | 0·6 | 1·3 | 0·2 | 0·4 | 0·8 | 2·3 | 2·0 | 1·1 |
| Per cent time lost account of wind | 1·5 | | 2·1 | | | | 12·6 | 1·6 | 20·9 | 11·9 | 6·2 | 13·0 | 5·8 |
| Per cent time lost account of tide | 0·5 | 0·5 | | 8·4 | 11·0 | | | | 0·5 | | | | 1·7 |
| Per cent time lost account of fog | | | | | | | | | | 0·4 | 1·1 | 1·3 | 0·2 |
| Per cent time lost account of coaling | 6·9 | 4·3 | 5·1 | 6·2 | 6·4 | 5·8 | 4·0 | 6·3 | 5·0 | 6·1 | 5·5 | 6·9 | 5·5 |
| Per cent time lost washing boilers | 4·5 | | | | 6·2 | | | 3·0 | | | 4 8 | | 1·5 |
| Per cent time lost account miscellaneous causes | 7·3 | 6·4 | ·4 | ‡16·9 | 4·6 | 5·3 | 7·4 | 8·4 | 3·4 | 7·8 | 5·8 | 8·8 | 7·3 |

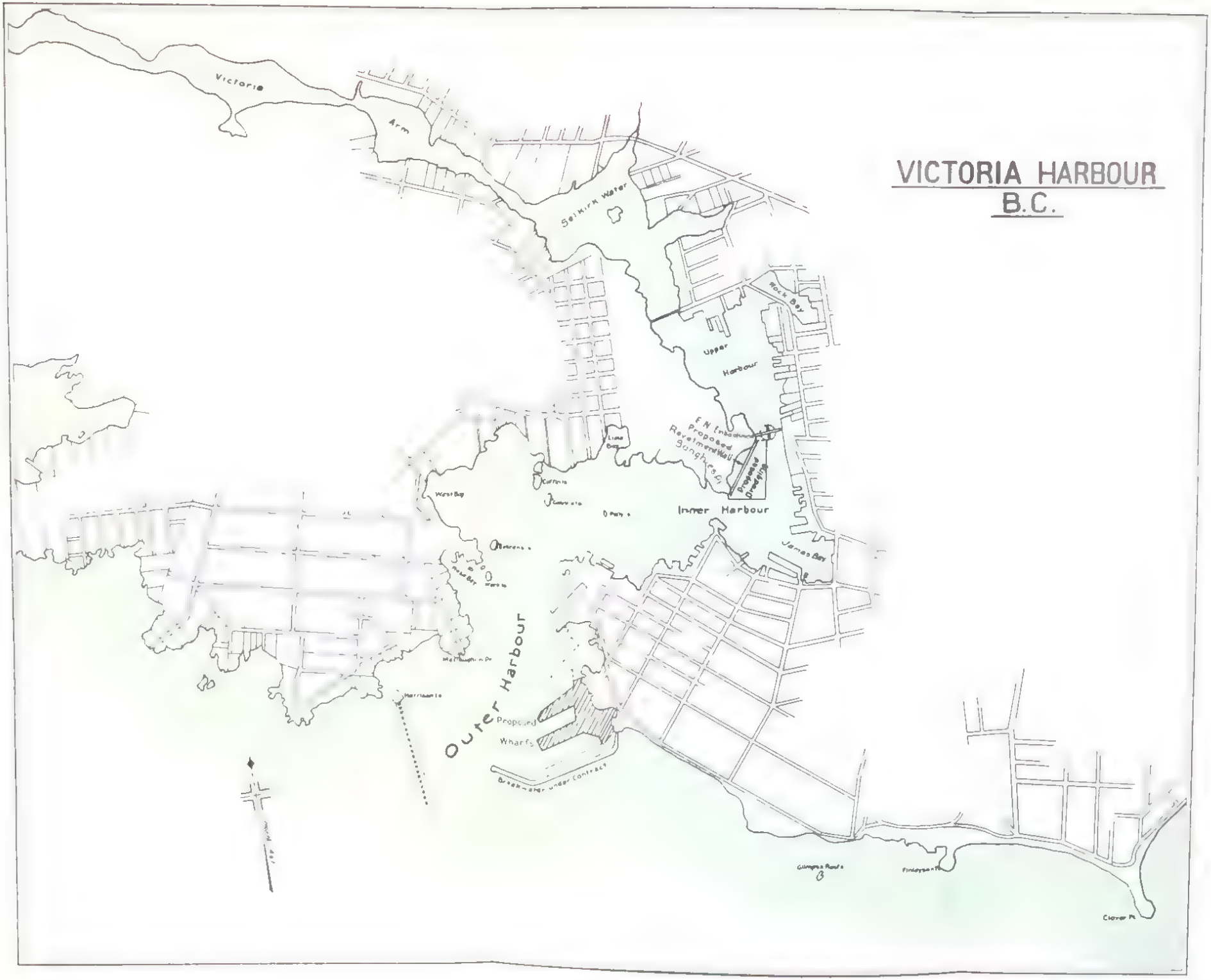
‡ Large percentage of loss due to dredge having to allow vessel to load at coal wharf (Nanaimo).

PERFORMANCE of Elevator Dredge *Mastodon* for the Twelve Months, April 1, 1912, to March 31, 1913.

(Total for both Shifts.)

| | April. | May. | June. | July. | August. | Sept. | October. | Nov. | Dec. | January. | Feb. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cubic yards material handled | 109,900 | 97,100 | ..... | 62,100 | 70,800 | 72,900 | 49,200 | 126,000 | 104,700 | 19,500 | 45,900 | 69,300 | 827,400 |
| Kind of material | Gravel. | ..... | B. Ct. G. H. P. | ..... | ..... | ..... | ..... | H. P. Mud. | Mud. | Gravel. | ..... | ..... | ..... |
| Total hours on duty | 420 | 387·5 | 205·5 | 439 | 418·5 | 389·5 | 412·5 | 445 | 387·5 | 323·5 | 346·5 | 373·5 | 4,548·5 |
| Hours actually dredging | 206·5 | 174·5 | ..... | 213 | 219 | 186 | 259·75 | 214·5 | 161·5 | 47 | 115·25 | 181·25 | 1,978·25 |
| Yards per hour actual dredging | 532 | 556 | ..... | 291 | 323 | 392 | 189 | 587 | 648 | 415 | 398 | 382 | 418 |
| Per cent time actually dredging | 49·2 | 45·1 | ..... | 48·4 | 52·4 | 47·8 | 62·9 | 48·3 | 41·7 | 14·5 | 33·3 | 48·6 | 41·0 |
| Per cent time lost moving to and from place of working | 5·8 | 1·0 | ..... | ..... | ..... | 0·3 | 1·3 | ..... | 0·3 | 1·9 | 2·0 | 2·5 | 1·3 |
| Per cent time lost account repairs to dredge | ..... | 13·7 | 100 | 8·1 | 14·3 | 4·7 | 12·8 | 0·3 | 9·3 | 34·0 | 22·1 | 1·5 | 18·4 |
| Per cent time lost account repairs to tug | 1·2 | 0·4 | ..... | 2·9 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 0·4 |
| Per cent time lost account repairs to scows | ..... | 0·7 | ..... | ..... | ..... | 7·0 | 0·2 | 3·7 | ..... | ..... | ..... | ..... | 1·0 |
| Per cent time lost account trouble with scows | 23·8 | 23·7 | ..... | 14·9 | 18·3 | 16·0 | 5·0 | 20·2 | 16·8 | 5·8 | 7·7 | 8·0 | 13·4 |
| Per cent time lost waiting for scows (tug service) | 8·3 | 8·7 | ..... | ..... | 1·3 | 4·0 | 1·4 | 11·6 | 12·2 | 1·8 | 1·8 | 2·6 | 4·5 |
| Per cent time lost adjusting machinery of dredge | ..... | ..... | ..... | 1·7 | 0·1 | ..... | 2·3 | 4·4 | 3·8 | ..... | ..... | ..... | 1·0 |
| Per cent time lost account of wind | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Per cent time lost account of tide | 0·4 | ..... | ..... | ..... | ..... | ..... | 0·5 | ..... | ..... | 20·2 | 17·3 | 22·2 | 5·0 |
| Per cent time lost account of fog | ..... | ..... | ..... | ..... | 0·5 | 1·9 | ..... | 3·0 | 5·0 | 5·0 | 0·8 | 0·4 | 1·4 |
| Per cent time lost account of coaling | 5·9 | 5·4 | ..... | 5·9 | 3·1 | 4·9 | 1·3 | ..... | 0·3 | ..... | 8·5 | ..... | 2·9 |
| Per cent time lost washing boilers | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Per cent time lost account miscellaneous causes | 5·4 | 1·3 | ..... | 18·1 | 10·0 | 13·4 | 12·3 | 8·5 | 10·6 | 16·8 | 6·5 | 14·2 | 9·7 |

NOTE.—Discontinued work at First Narrows, May 23, 1912.
Commenced work at Coal Harbour, June 2, 1912.
Commenced work at Parthia Shoal, January 16, 1913.


VICTORIA HARBOUR
B.C.
Victoria
Arm
Selkirk Water
Rock Bay
Upper
Harbour
E.N. Industries
Proposed
Revetment Wall
Songhees
Proposed
Dredging
Inner Harbour
James Bay
Outer Harbour
Proposed
Wharfs
Breakwater under Contract

PERFORMANCE of Elevator Dredge *Mastodon* for the Twelve Months, April 1, 1912, to March 31, 1913.

(Total for both Shifts.)

| | April. | May. | June. | July. | August. | Sept. | October. | Nov. | Dec. | January. | Feb. | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cubic yards material handled | 100,000 | 67,100 | | | | | | | | | | | |

PERFORMANCE of Agitator Suction Dredge *King Edward* for the Twelve Months, April 1, 1912, to March 31, 1913.

| | April. | May. | June. | July. | August. | Sept. | October. | Nov. | Dec. | January. | February | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cubic yards material handled | 24,000 | 16,900 | 80,300 | 46,050 | 22,150 | 26,100 | 40,200 | 54,150 | 44,980 | 15,350 | 34,360 | 66,490 | 471,030 |
| Kind of material | Gravel. | Sand, Gravel. | Sand. | Silt. | ..... | Sand. | Silt. Sand. | Sand. | ..... | Silt. | Silt. F. Sand. | Silt. F. Sand. | |
| Total hours on duty | 212·5 | 220·5 | 205·5 | 232·5 | 243·5 | 210 | 220 | 224·5 | 219·5 | 229 | 210 | 205·5 | 2,633 |
| Hours actually pumping | 142 | 91·25 | 128·5 | 104 | 56·25 | 63·5 | 89 | 113 | 118·25 | 34·5 | 71 | 114·5 | 1,125·75 |
| Yards per hour actually dredging | 169 | 185 | 625 | 443 | 393 | 411 | 450 | 479 | 380 | 445 | 484 | 579 | 418 |
| Per cent time actually pumping | 66·8 | 41·3 | 62·5 | 44·7 | 23·1 | 30·2 | 40·5 | 50·3 | 53·8 | 15·1 | 33·8 | 55·8 | 43·2 |
| Per cent time lost discharging hoppers | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Per cent time lost moving to and from place of working | 4·2 | 5·9 | 1·0 | 3·7 | 12·3 | 3·5 | 3·0 | 3·7 | 2·2 | 3·3 | 3·9 | 2·7 | 4·1 |
| Per cent time lost taking up and laying out plant | 6·4 | 15·3 | 11·3 | 21·6 | 14·0 | 12·6 | 13·3 | 20·5 | 17·0 | 10·7 | 26·2 | 15·4 | 15·3 |
| Per cent time lost account repairs to dredge | 8·9 | 2·6 | 13·3 | 1·5 | 45·8 | 44·9 | 32·7 | 7·9 | 5·0 | *60·3 | 24·5 | 2·4 | 22·7 |
| Per cent time lost account trouble with pipe line | 1·3 | 1·7 | 6·8 | 3·0 | 1·7 | 1·8 | 2·6 | 2·0 | 3·3 | 1·3 | 1·9 | 0·1 | 2·3 |
| Per cent time lost account trouble with pontoons | 0·6 | ..... | ..... | ..... | ..... | ..... | ..... | 0·3 | 0·2 | 0·2 | 1·0 | 0·6 | 0·2 |
| Per cent time lost adjusting machinery of dredge | ..... | 1·4 | 0·7 | ..... | ..... | 0·8 | 0·1 | ..... | 2·3 | 0·2 | ..... | 1·6 | 0·6 |
| Per cent time lost account of wind | ..... | 4·9 | ..... | ..... | ..... | 2·9 | ..... | ..... | 1·5 | ..... | ..... | 9·5 | 1·6 |
| Per cent time lost account of tide | 2·2 | ..... | ..... | ..... | 0·8 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 0·2 |
| Per cent time lost account of fog | 0·5 | ..... | ..... | ..... | ..... | ..... | 0·9 | 1·6 | ..... | 2·6 | ..... | ..... | 0·5 |
| Per cent time lost account of coaling | ..... | 1·6 | 1·5 | 5·8 | 1·2 | 2·6 | 0·8 | 2·8 | 0·5 | 2·0 | 2·6 | ..... | 1·8 |
| Per cent time lost washing boilers | 8·5 | 2·3 | ..... | 7·5 | ..... | ..... | ..... | 10·7 | 10·9 | ..... | ..... | 9·0 | 4·1 |
| Per cent time lost account miscellaneous causes | 0·6 | ..... | 2·9 | 12·2 | 1·1 | 0·7 | 6·1 | 0·2 | 3·3 | 4·3 | 6·1 | 2·9 | 3·4 |

* Repairs were carried out while dredge was out of commission on account of ice in river.

PERFORMANCE of Scraper Suction Dredge *Fruhling* for the Twelve Months, April 1, 1912, to March 31, 1913.

| | April. | May. | June. | July. | August. | Sept. | October. | Nov. | Dec. | January. | February | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cubic yards material handled | 83,200 | 79,400 | 92,000 | ..... | 129,600 | 105,600 | 85,600 | 101,600 | 58,600 | 64,800 | 64,000 | 64,800 | 929,200 |
| Kind of material | Sand. | Mud. Sand. | Sand. | ..... | Sand. | ..... | ..... | ..... | Sand. S. Clay. | Silt. Clay. | Sand. | Sand. | ..... |
| Total hours on duty | 211 | 221·5 | 205·5 | 229 | 234 | 210 | 229 | 224·5 | 220·75 | 229 | 210 | 205·5 | 2,629·75 |
| Hours actually pumping | 79·75 | 91·5 | 96·75 | ..... | 126·75 | 106 | 89·75 | 104·5 | 73·5 | 83·75 | 80 | 86·75 | 1,019 |
| Yards per hour actually dredging | 1,043 | 867 | 951 | ..... | 1,022 | 996 | 954 | 972 | 797 | 773 | 800 | 747 | 912 |
| Per cent time actually pumping | 37·8 | 41·3 | 47·1 | ..... | 54·1 | 50·5 | 39·2 | 46·5 | 33·3 | 36·6 | 38·1 | 42·2 | 38·9 |
| Per cent time lost discharging hoppers | 40·0 | 24·1 | 25·4 | ..... | 18·6 | 16·4 | 11·8 | 25·1 | 17·3 | 9·8 | 18·8 | 20·3 | 19·01 |
| Per cent time lost moving to and from place of working | 14·6 | 10·2 | 10·0 | 2·6 | 10·0 | 10·4 | 10·2 | 13·1 | 18·5 | 12·8 | 17·0 | 16·8 | 12·2 |
| Per cent time lost taking up and laying out plant | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 4·3 | 13·8 | 1·4 | 2·4 | 14·8 |
| Per cent time lost account repairs to dredge | ..... | 12·2 | 7·1 | 97·4 | 4·1 | 4·5 | 30·1 | ..... | ..... | ..... | ..... | ..... | 0·1 |
| Per cent time lost trouble account pipe line | 0·7 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Per cent time lost trouble account pontoons | ..... | ..... | ..... | ..... | ..... | ..... | 0·3 | ..... | ..... | ..... | ..... | ..... | ..... |
| Per cent time lost adjusting machinery of dredge | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 9·5 | 11·1 | 5·1 | 6·3 | 2·6 |
| Per cent time lost account of wind | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 0·2 | ..... | 0·1 |
| Per cent time lost account of tide | ..... | 1·1 | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| Per cent time lost account of fog | ..... | ..... | ..... | ..... | 0·8 | ..... | 0·2 | 0·8 | 3·4 | 8·3 | ..... | 1·6 | 1·3 |
| Per cent time lost account of coaling | 5·7 | 5·4 | 5·8 | ..... | 6·4 | 5·3 | 4·8 | 6·7 | 5·4 | 3·9 | 5·7 | 5·8 | 5·1 |
| Per cent time lost washing boilers | ..... | 4·3 | 4·6 | — | ..... | 9·0 | ..... | 4·2 | 4·3 | ..... | 9·1 | ..... | 2·9 |
| Per cent time lost account miscellaneous causes | 1·2 | 1·4 | ..... | ..... | 6·0 | 3·9 | 3·4 | 3·6 | 4·0 | 3·7 | 4·6 | 4·6 | 3·0 |

PERFORMANCE of Lobnitz Rock Breaker *No. 1* for the Twelve Months, April 1, 1912, to March 31, 1913.

| | April. | May. | June. | July. | August. | Sept. | October. | Nov. | Dec. | January. | Februar y | March. | Totals. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Locality | Dredger Rock. | ..... | Platform Rock. | ..... | ..... | ..... | Machine out of commission during September and October during alterations. A considerable portion of loss attributed to "Repairs" was really due to alterations. | Evans, Coleman. | Raymurs Pt. R. | ..... | ..... | ..... | ..... |
| Class of Rock | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| No. of blows | 4,375 | 6,026 | 6,802 | 9,514 | 9,390 | ..... | ..... | 5,154 | 21,617 | 26,326 | 31,579 | 31,081 | 153,350 |
| No. of holes | 413 | 369 | 324 | 435 | 535 | ..... | ..... | 303 | 1,047 | 1,192 | 1,476 | 1,576 | 7,747 |
| Estimated cubic yards broken | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | 5,146 |
| Hours on duty | 210 | 219·5 | 205·5 | 229 | 234 | ..... | ..... | 224·5 | 387·5 | 376 | 378 | 394·5 | 2,858·5 |
| Hours actually breaking rock | 42·25 | 43·75 | 41·75 | 66·5 | 60 | ..... | ..... | 46·75 | 170·25 | 189·75 | 225·75 | 245·25 | 1,132 |
| Blows per hour breaking rock | 103 | 137 | 163 | 143 | 156 | ..... | ..... | 110 | 127 | 139 | 139 | 123 | 135 |
| Per cent time actually breaking rock | 20·1 | 19·9 | 20·3 | 29·0 | 25·6 | ..... | ..... | 20·8 | 44·0 | 50·4 | 59·7 | 62·2 | 35·2 |
| Per cent time lost—Moving about | 10·0 | 9·6 | 8·2 | 5·9 | 11·3 | ..... | ..... | 10·7 | 0·6 | 0·7 | 0·5 | 0·5 | 5·8 |
| " " Repairs | 2·1 | 16·6 | 5·3 | 20·1 | 10·01 | ..... | ..... | 27·8 | 27·9 | 8·1 | 20·7 | 11·2 | 15·0 |
| " " Adjusting machinery | 1·1 | 1·1 | 0·4 | 0·2 | 0·6 | ..... | ..... | 2·0 | 1·5 | 1·0 | 0·9 | 1·6 | 1·1 |
| " " Wind | ..... | ..... | 8·3 | ..... | ..... | ..... | ..... | ..... | 8·1 | ..... | ..... | 5·1 | 2·1 |
| " " Tide | 0·7 | ..... | ..... | ..... | 9·8 | ..... | ..... | ..... | ..... | 1·0 | 0·5 | ..... | 1·2 |
| " " Fog | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... | ..... |
| " " Taking on fuel | 7·5 | 5·8 | 11·7 | 7·5 | 10·9 | ..... | ..... | 7·6 | 9·0 | 8·2 | 7·3 | 7·6 | 8·3 |
| " " Filling water tanks | 8·8 | 6·2 | 4·9 | 5·4 | 5·4 | ..... | ..... | ..... | 0·8 | 0·7 | 0·3 | 0·4 | 3·3 |
| " " Placing mooring | 13·6 | 15·7 | 17·8 | 14·4 | 5·8 | ..... | ..... | 6·5 | 4·6 | 3·6 | 4·2 | 4·4 | 9·0 |
| " " Passing vessels | 10·5 | 9·4 | 11·9 | 3·4 | 7·3 | ..... | ..... | 7·1 | ..... | ..... | ..... | ..... | 5·0 |
| " " Sounding | 25·6 | 10·7 | 7·9 | 4·3 | 10·5 | ..... | ..... | 9·4 | 1·3 | 0·3 | 2·5 | 0·6 | 7·3 |
| " " Miscellaneous causes | ..... | 5·0 | 3·3 | 9·8 | 2·7 | ..... | ..... | 8·1 | 2·2 | 26·0 | 3·4 | 6·4 | 6·7 |

Total for both shifts—Night shift work commenced December 2nd. 1912.

## BRITISH COLUMBIA.—*Concluded.*

The following statement shows the cost of operations, repairs, amount of material removed, and cost per cubic yard, of the departmental dredges operating in the district of British Columbia, including cost of operations and repairs to tugs, scows, etc., for the fiscal year ending March 31, 1913:—

| Name of Dredge. | Cost of Operating. | Cost of Repairing. | Total Cost. | Total amount of material dredged. | Cost per Yard. |
|---|---|---|---|---|---|
| | $ cts. | $ cts. | $ cts. | Cubic Yards | $ cts. |
| *Ajax* | 45,945 51 | 18,271 35 | 64,216 89 | 243,870 | 26 33 |
| *Foulding* | 36,055 23 | 11,485 51 | 47,540 74 | 928,600 | 5 11 |
| *King Edward* | 37,158 05 | 14,581 35 | 51,739 40 | 471,030 | 10 09 |
| *Mud Lark* | 29,537 74 | 8,883 33 | 38,421 07 | 109,590 | 35 06 |
| *Mastodon* | 104,695 94 | 39,951 05 | 144,646 99 | 824,700 | 17 54 |
| *Lobnitz Rock Breaker* | 16,744 64 | 4,034 16 | 20,778 80 | 5,164 | 4 02 |
| *Drilling Plant* | 14,167 09 | 805 64 | 14,972 73 | 2,376 | 6 30 |

## CONTRACT DREDGING, 1912.

*Amherst, N.S.*—Under contract No. 8569 with E. R. Reid. Dredge *Mabel Reid.*

Quantity removed: 8,652 cubic yards, class 'B,' scow measurement, at 65 cents per cubic yard; mud and clay.
Amount paid contractor, $5,623.80; inspection, $466.50; total expenditure, $6,090.30.
Work commenced 6th August, 1912; completed 7th December, 1912.
Dredging to level of low water, ordinary spring tides.
Object of work: To dredge away corner of river bank and straighten entrance channel.
440 cubic yards carried forward to 1913.

*Arnold's Cove, N.S.*—Under Contract No. 9026 with Alfred Hefler. Dredge *Ajax.*

Quantity removed; 980½ cubic yards, class 'B,' at 29 cents, scow measurement; sand, mud and small rock.
Haul, 1 mile.
Amount paid contractor, $284.35; inspection, $48; total expenditure, $332.35.
Work commenced 20th November; completed 7th December, 1912.
Depth of water made below zero, 6 feet.

*Bridgewater, N.S.*—Under contract No. 7813 with W. J. Poupore Co., Ltd. Dredge *King Edward.*

Quantity removed: 93·77 cubic yards rock, scow measurement, at $5.50 per cubic yard.
Amount paid contractor, $515.74; inspection, $21.33; total expenditure, $537.07.
Work commenced 22nd April; completed 30th April, 1912.
Depth of water made below zero, 17 feet 9 inches.
Object of work: Straightening channel below railway wharf.

*Batiscan, Que.*—Under contract No. 8546, with W. J. Poupore Co., Ltd. Dredge *Duke of York.*

Quantity removed: 56,804 cubic yards, sand and clay, class 'B,' scow measurement, at 15 cents per cubic yard.
Haul, 1½ to 1¾ miles.
Amount paid contractor, $8,520.60; inspection, $223; total expenditure, $8,743.60.
Work commenced 9th May; completed 3rd August, 1912.
Object of work: Dredging channel to wharf to 12 feet.
Contract completed.

*Berthierville, Que.*—Under contract No. 8537 with W. J. Poupore Co., Ltd. Dredges *Prince Willie, Prince Guy* and *Duke of York.*

Quantity removed: 83,444 cubic yards, sand and clay, at 14 cents per cubic yard, scow measurement.
Haul, 2 to 3·7 miles; 1 cent for extra haul on 11,571 cubic yards of above.
Amount paid contractor, $11,797.87; inspection, $354.65; total expenditure, $12,152.52.
Work commenced 9th May; completed 20th September, 1912.
Object of work: Channel to wharfs 100 feet wide to 10 feet deep.
Work completed.

*Bay Inlet, Ont.*—Under contract No. 8756, with C. S. Boone Dredging and Construction Co., Ltd. Dredge *Meade.*

Quantity removed: 3,870 cubic yards, rock, at $5.49, scow measurement.
Haul, 2½ miles.
Amount paid contractor, $21,246.30.
Work commenced 29th May; completed 5th July, 1912.
Depth of water made below zero, 20 feet.
Object of work: Channel to wharf 150 feet wide to 20 feet deep.

*Buctouche, N.B.*—Under contract No. 8572 with Peter England. Dredge *Excavator.*

Quantity removed, 30,844.6 cubic yards: 22,269.1 cubic yards hauled, at 36 cents; 3,421·0 cubic yards cast over, at 24 cents; 5,154·5 cubic yards rehauled, at 12 cents; sand, mud and clay, scow measurement, class 'B'.
Haul, ½ mile.
Amount paid contractor, $9,851.98; inspection, $477.90; total expenditure, $10,329.88.
Work commenced 9th May; completed 21st November, 1912.
Object of work: Channel through bar 40 feet wide to 3 feet deep.

*Blind River, Ont.*—Under contract No. 8884, with C. S. Boone Dredging and Construction Co., Ltd. Dredges *Kingsford* and *Meade.*

Quantity removed: 57,197 cubic yards, sand and clay, at 15½ cents, place measurement, class 'B.'
Amount paid contractor, $8,865.54; inspection, $376.80; total expenditure, $9,242.34.
Work commenced 20th June; completed 16th October, 1912.
Object of work: Channel to wharfs and turning basin to 16 feet.

*Belle River, Ont.*—Under agreement with Windsor Dredging Co. Dredge *Peltier.*

Quantity removed: 21,303·8 cubic yards, sand and clay, at 25 cents, scow measurement, class 'B.'
Cast over: 4,187·8 cubic yards of above, at 15 cents.
Haul, ¼ to 1½ miles.
Amount paid contractor, $4,907.17; inspection, $98.20; total expenditure, $5,005.37.
Work commenced 12th August; completed 16th September, 1912.
Object of work: Maintaining channel and turning basin to 10 feet.

*Big Lorraine, N.S.*—Under contract No. 7887, with Atlantic Dredging Co. Dredge *Quincy.*

Quantity removed: 608 cubic yards, class 'A,' at $5, scow measurement; 3,358 cubic yards, class 'B,' at 75 cents, scow measurement; gravel, sand, mud and rock.
Haul, ½ mile.
Amount paid contractor, $5,558.50; inspection, $152.73; total expenditure, $5,711.23.
Work commenced 9th October; completed 22nd November, 1912.
Object of work: To complete channel 140 feet long to give required 10 feet at low water.

*Bridgetown, N.B.*—Under agreement with Northern Dredging and Construction Co. Dredge *Invader.*

Quantity removed: 7,495·56 cubic yards, class 'B,' at 30 cents, place measurement; mud, sand and clay.
Haul, ¼ mile.
Amount paid contractor: $2,248.67; inspection, $32.50; total expenditure, $2,281.17.

Work commenced 6th November; completed 20th November, 1912.
Object of work: Dredging berth for steamers 650 to 720 feet long and 100 feet wide in front of wharf to generally 22 feet at low water.

*Brockville, Ont.*—Under agreement with Daly and Hannon Dredging Co., use of dredge 13½ hours at $12 per hour.

Amount paid contractor, $162.
Work commenced 7th December; completed 9th December, 1912.
Depth of water made below zero, 10 feet.
Object of work: Removal of broken rock near dock, remains of shoal formerly drilled and blasted.

*Campbellton, N.B.*—Under agreement with Northern Dredging and Construction Co. Dredge *Grey Loggie.*

Quantity removed: 8,417·41 cubic yards, at 40 cents, scow measurement; mud and gravel.
Haul, 8 miles, at 7½ cents per cubic yard extra.
Amount paid contractor, $3,958.12; inspection, $106.50; total expenditure, $4,064.62.
Work commenced 29th May; completed 3rd July, 1912.
Object of work: 100 feet channel to deep water wharfs; dredging along front of wharfs to 16 and 25 feet.

NOTE.—Market wharf, 1,255·35 cubic yards; Shive's wharf, 3,119·75 cubic yards; extra for logs, 535·3 cubic yards; town wharf, 2,643·06 cubic yards; ferry slip, 863·95 cubic yards; total, 8,417·41 cubic yards.

*Chipman, N.B.*—Under agreement with New Brunswick Construction Co. Dredge *New Brunswick No. 2.*

Quantity removed, 12,399·5 cubic yards, at 19½ cents, scow measurement; bark, sand, logs and sticks.
Haul, ½ to 4 miles.
Amount paid contractor, $2,417.91; inspection, $330; total expenditure, $2,747.91.
Work commenced 8th May; completed 12th July, 1912.
Object of work: Dredging alongside wharf to 9 feet.

*Cheticamp, N.S.*—Under contract No. 8964 with V. T. Bartram. Dredge *Etang.*

Quantity removed: 22,801 cubic yards, at 37½ cents, scow measurement; sand and gravel.
Haul, 1¼ to 1½ miles.
Amount paid contractor, $8,550.37; inspection, $176; total expenditure, $8,726.37.
Work commenced 7th August; completed 10th October, 1912.
Object of work: Dredging 100 feet channel to 16 feet at entrance to harbour.

*Caraquet, N.B.*—Under contract No. 7948, with W. J. Poupore Co., Ltd. Dredge *Prince Louis.*

Quantity removed: 27,054·22 cubic yards, at 30 cents, scow measurement; sand, clay and gravel.
Haul, 1½ to 4½ miles.
Final estimate, deducting 47,251 cubic yards for over dredging, gave debit of $8,870.29; inspection, $178.25.
Work commenced 13th August; completed 20th October, 1912.
Object of work: To deepen berths to 18 and 22 feet at new deep-water wharf, and widen and deepen channel.

*Chatham, N.B. (Snowballs Wharf).*—Under agreement with Northern Dredging and Construction Co. Dredges *Hayward* and *Invader.*

Quantity removed: 10,123·3 cubic yards, at 30 cents, place measurement; mud, gravel, rocks and coal.
Haul, 2½ miles.
Amount paid contractor, $3,036.99.
Work commenced 25th September; completed 19th October, 1912.
Object of work: Dredging at wharf, to permit ocean-going steamers to lay alongside, to 20 feet.

*Chatham, N.B. (Public Wharf).*—Under agreement with Northern Dredging and Construction Co. Dredges *Hayward* and *Invader.*

Quantity removed: 210·7 cubic yards, class 'B,' at 30 cents, place measurement; mud, gravel and rocks.
Haul, 2 miles.
No payment to be made till work is completed.
Inspection (included in Canada Dock).
Work commenced 25th September; completed 26th September, 1912.
Depth of water made below zero, 10 feet.
Object of work: Dredging at wharf to provide berths for small craft.

*Chatham, N.B. (Canada Dock).*—Under agreement with Northern Dredging and Construction Co. Dredges *Hayward* and *Invader.*

Quantity removed: 3,072·5 cubic yards, at 30 cents, place measurement; mud, gravel and rocks.
Haul 1 mile.
Amount paid contractor, $921.75; inspection, $109.08; total expenditure, $1,030.83.
Work commenced 23rd September; completed 25th September, 1912.
Depth of water made below zero, 20 feet.
Object of work: Dredging at wharf to permit ocean-going vessels to lay alongside to take on cargo.

*Cobourg, Ont.*—Under contract with General Construction and Dredging Co. Dredge *Edmund Hall.*

Quantity removed: 2,915 cubic yards, at 19½ cents, scow measurement; sand.
Haul, 1½ miles.
Amount paid contractor, $568.43; inspection, $100.25; total expenditure, $668.68.
Work commenced 23rd October; completed 2nd November, 1912.
Object of work: Dredging channel through bar at entrance to harbour—400 feet by 100 feet to 20 feet.

*Dalhousie, N.B.*—Under contracts Nos. 7890 and 9091 with Northern Dredging and Construction Company. Dredge *Gray Loggie.*

Quantity removed: 3,998.05 cubic yards, class 'A,' under No. 7890, at $5 scow measurement; 2·0 cubic yards, class 'A,' under No. 9091, at $5, scow measurement; 21,049·65 cubic yards, class 'B,' under No. 7890, at 29¼ cents, scow measurement; 27,760·0 cubic yards, class 'B,' under No. 9091, at 29½ cents, scow measurement; mud and rock. Total, 52,809·7 cubic yards.
Haul, 2¼ miles.
Amount paid contractor, $26,147.27; inspection, $570.75; total expenditure, $26,718.02.
Work commenced 14th May; completed 25th November, 1912.
Depth of water made below zero, 15 to 18 feet.
Object of work: Dredging through shoal at entrance and in berths in basin to 18 feet.

*Digby, N.S.*—Under Contract No. 9012, with Dominion Dredging Company, Limited. Dredge *No. 4.*

Quantity removed: 61,610 cubic yards, at 27½ cents, scow measurement; sand and mud.
Haul, 2 miles.
Amount paid contractor, $16,942.75; inspection, $72.70; total expenditure, $17,015.45.
Work commenced 15th June; completed 12th July, 1912.
Depth of water made below zero, 18 feet.
Object of work: Dredging a channel 400 feet wide, 18 feet deep, to Government Pier, and to 4 feet above L.W.L. in channel in the Raquette.

*Day's Landing, N.B.*—Under agreement with New Brunswick Construction Co. Dredge *New Brunswick No. 2.*

Quantity removed. 3,113 cubic yards, at 35 cents, scow measurement; sand and gravel.
Haul, ¼ mile.
Amount paid contractor, $1,089.55; inspection, $69; total expenditure, $1,158.55.
Work commenced 22nd July; completed 14th August, 1912.
Object of work: Clean up basin in front of wharf to 11 feet.

*Deseronto, Ont.*—Under contract No. 8883, with John E. Russell. Dredge *Jack Canuck.*

Quantity removed: 3,045 cubic yards, class 'A,' at $4.25, place measurement; 6,119·1 cubic yards, class 'B,' at 26 cents, place measurement; mud and rock. Total, 9,164·1 cubic yards.
Amount paid contractor, $14,532.22; inspection, $303.12; total expenditure, $14,835.34.
Work commenced 31st August; completed 23rd November, 1912.
Object of work: Dredge channel to coal and lumber wharf, 80 to 120 feet wide, to give 14 feet depth.

*Dipper Harbour, N.B.*—Under contract with J. S. Gregory. Dredge *Asp.*
Quantity removed: 5,943·8 cubic yards, at 65 cents in channel, 50 cents in basin, scow measurement; mud, sand and gravel.
Haul, ¾ mile.
Amount paid contractor, $2,444.43; inspection, $117; total expenditure, $2,561.43.
Work commenced 22nd August; completed 5th October, 1912.
Depth of water made below zero, 8 and 13 feet.
Object of work: Dredging 100 feet entrance channel to 13 feet, and basin for anchorage to 8 feet and 13 feet.

*Descouse, N.S.*—Under contract No. 8927, with V. T. Bartram. Dredge *Etang.*

Quantity removed: 8,925·5 cubic yards, at 26½ cents, scow measurement; clay and boulders.
Haul, 1 mile.
Amount paid contractor, $2,365.26; inspection, $96.94; total expenditure, $2,462.20.
Work commenced 24th October; completed 23rd November, 1912.
Object of work: To straighten and deepen entrance channel to 14 feet.

*Douglastown, N.B.*—Under agreement with Northern Dredging and Construction Co. Dredges *Hayward* and *Invader.*

Quantity removed: 6,855·15 cubic yards, at 30 cents, place measurement; mud, sand and clay.
Haul, ½ to 1 mile.
Amount paid contractor, $2,056.55; inspection, $32; total expenditure, $2,088.55.

Work commenced 27th September; completed 22nd November, 1912.
Depth of water made below zero, 18 and 22 feet.
Object of work: Dredging to 18 and 22 feet at wharfs on Miramichi river.

NOTE.—Lumber Co., wharf, 3,518·15 cubic yards = $1,055.45.
R. Corry Clark, wharf, 3,337·0 " " = $1,001.10.

*Dunham's Wharf, N.B.*—Under agreement with Maritime Dredging and Construction Co., Ltd. Dredge *Beacon Bar.*

Quantity removed: 670·7 cubic yards, at 50 cents, scow measurement; clay.
Haul, ⅓ mile.
Amount paid contractor, $335.35; inspection, $12.50; total expenditure, $347.85.
Work commenced 25th November; completed 26th November, 1912.
Depth of water made below zero, 9 feet.
Object of work: Dredging about wharf to allow river steamers to approach with safety.

*Echo Bay, Ont.*—Under contract No. 8608, with Robertson, Ferrier and Kennedy; after 30th June transferred to Superior Dredging and Dock Co. Dredge *Julia Murphy.*

Quantity removed: 37,738 cubic yards, scowed away, at 22 cents, place measurement; 15,178 cubic yards, cast over, at 14⅔ cents, place measurement; 7,575 cubic yards, rehandled, at 7⅓ cents, place measurement; sand, mud and clay. Total, 60,491 cubic yards.
Haul, ½ to 2 miles.
Amount paid contractor, $10,775.90; inspection, $518.69; total expenditure, $11,294.59.
Work commenced 17th May; completed 30th November, 1912.
Object of work: Removal of three bars in river channel to give 7 feet depth.

*East Templeton, Green Shoals, Que.*—Under contract No. 7877, with L. Cohen & Son. Dredge *Mogul.*

Quantity removed: 8,103 cubic yards, at $3.75, scow measurement; rock.
Haul, 1½ miles.
Amount paid contractor, nil, 8,195 cubic yards = $30,731.25 having been deducted for over-dredging in 1910-11-12.
Work commenced 26th July; completed 14th November, 1912.
Object of work: To remove obstruction in Ottawa-Grenville channel in Ottawa river to give 10 feet draught.

*Fredericton, N.B.*—Under contract No. 8922, with New Brunswick Construction Co., Ltd. Dredges *Provincial No. 1, Keta, Tantawanta, Asp* and *New Brunswick No. 1.*

Quantity removed: 173,656·5 cubic yards, at 23 cents, scow measurement; clay, sand and gravel.
Haul, 1 to 3 miles.
Amount paid contractor, $39,940.98; inspection, $1,972.88; total expenditure, $41,913.86.
Work commenced 16th July; completed 7th November, 1912.
Object of work: To improve channel in St. John river, and dredge around wharfs to give 11 feet draught.

*Goderich, Ont.*—Under contract No. 8925 and agreement with Marlton Dredging Co. Dredges *No. 2* and *Arnoldi.*

Quantity removed: Contract, 6,543 cubic yards, class 'A,' at $2.50, place measurement; agreement, 16,030 cubic yards, class 'B,' at 30 cents, scow measurement; contract, 20,583½ cubic yards, class 'B,' at 25 cents, scow measurement; rock, clay, sand and gravel.

Haul, 1 to 1½ miles.
Amount paid contractor, (agreement) $4,809, (contract) $21,578.38; inspection, $564; total expenditure, $26,951.38.
Work commenced, agreement, 29th April; contract, 3rd August, 1912. Work completed, agreement, 19th June; contract, 7th December, 1912.
Depth of water made below zero, 19 to 22 feet.
Object of work: To maintain entrance channel and provide turning basin in inner harbour, depth 22 feet and 21 feet.

NOTE.—No rock under agreement.

*Grande Dune Flats, Miramichi Bay, N.B.*—Under contract Nos. 8036 and 9037, with Northern Dredging & Construction Co., Ltd. Dredges *Invader* and *Hayward.*

Quantity removed: (8036) 100,837·91 cubic yards, at 11 cents, scow measurement; (9037) 287,556·11 cubic yards, at 20 cents, scow measurement; mud.
Haul, 2 miles.
Amount paid contractor, (8036) $11,092.17, (9037) $51,224.93; inspection, $168.62; total expenditure, $62,485.72 on both contracts, with deductions as per final estimate, passed 16th April, 1913.
Work commenced (8036) 23rd May; (9037) 22nd June, 1912. Work completed (8036) 21st June; (9037) 10th September, 1912.
Object of work: To widen to 300 feet and deepen to 22 feet channel to Miramichi river ports, through Grand Dune Flats.

*Grande Etang, N.S.*—Under contract No. 7867, with V. T. Bartram. Dredge *Etang.*

Quantity removed; 16,551 cubic yards, at 37½ cents, scow measurement; gravel and mud.
Haul, ½ mile.
Amount paid contractor, $6,206.63; inspection, $143.56; total expenditure, $6,350.19.
Work commenced 24th June; completed 3rd August, 1912.
Object of work: To dredge entrance channel and basin inside harbour to 12 feet.

*Gananoque, Ont.*—Under contract No. 8947, with MacDonald Contracting Co., Ltd. Dredge *No. 5.*

Quantity removed: 49,768 cubic yards, class 'B,' at 17 cents, place measurement; mud and sawdust. (914 cubic yards, cast over, of above.)
Haul, 1¼ miles.
Amount paid contractor, $8,565.29, including $156.52 allowance for removing sewer pipe, 11 hours at $14.22⁹⁄₁₀ per hour; inspection, $221.50; total expenditure, $8,786.79.
Work commenced 18th July; completed 27th September, 1912.
Depth of water made below zero, 11 to 12 feet.
Object of work: To allow free passage to wharfs in town from deep water.

*Honey Harbour, Ont.*—Under contract No. 8939, with Canadian Dredging Co., Ltd. Dredges *Excelsior* and *Leland.*

Quantity removed: 360⅓ cubic yards, class 'A,' at $6, place measurement; 7,717 cubic yards, class 'B,' at 32 cents, place measurement; mud and rock.
Haul, ½ to ¾ mile.
Amount paid contractor, $4,631.44; inspection, $45.50; total expenditure, $4,676.94.
Work commenced 9th October; completed 26th November, 1912.
Depth of water made below zero, 10½ to 11 feet.
Object of work: To remove obstructions from channel to 10 feet.

*Hatfield's Point.*—Under agreement with Maritime Dredging and Construction Co., Ltd. Dredge *Beacon Bar.*

Quantity removed: 1,350 cubic yards, class 'B,' at 50 cents, scow measurement; mud.
Haul, 1 mile.
Amount paid contractor, $675 (inspection included in Dunham's wharf).
Work commenced 20th November; completed 23rd November, 1912.
Depth of water made below zero, 9 feet.
Object of work: Dredging about wharf to allow river steamers to approach with safety.

*I. C. R. Wharf, St. John Harbour, N.B.*—Under contract No. 8861, with J. S. Gregory. Dredge *Keta.*

Quantity removed: 11,631 cubic yards, class 'B,' at 36 cents, place measurement; mud.
Haul, 3 miles.
Amount paid contractor, $4,187.16.
Work commenced 8th May; completed 10th June, 1912.
Object of work: To remove material about deep-water wharf which has filled in, to give 30 feet.

*Kincardine, Ont.*—Under agreement with Dredging and Drainage Co. Dredge *Jack Canuck.*

Quantity removed: 14,111½ cubic yards, class 'B,' at 35 cents, scow measurement; mud, sand and hard-pan.
Haul, 1 mile.
Amount paid contractor, $4,939.02; inspection, $27; total expenditure, $4,966.02.
Work commenced on 20th June; completed 13th July, 1912.
Object of work: To maintain 16 feet depth at entrance and 14 feet inside harbour.

*Kingsville, Ont.*—Under contract No. 8920, with W. E. Hardison. Dredge *Old Glory.*

Quantity removed: 59,271 cubic yards (31,718½ cubic yards at 15 cents, scow measurement, inside harbour; 27,552½ cubic yards at 25 cents, scow measurement, outside harbour); clay, sand and boulders.
Haul, 1 mile.
Amount paid contractor, $11,645.90; inspection, $199.90; total expenditure, $11,845.80.
Work commenced 12th July; completed 14th September, 1912.
Object of work: Removal of bar at entrance, and increase turning basin in harbour to give 16 feet depth.

*Little Aldouane, N.B.*—Under agreement with Fidèle Savoie. Hand dredging.

Quantity removed: 1,308⅔ cubic yards, class 'B,' at 30 cents, place measurement; mud.
Amount paid contractor, $392.60; inspection, $5; total expenditure, $397.60.
Work commenced 20th March; completed 2nd April, 1912.
Object of work: To dredge alongside wharf and cut away sharp bend in river to give 3 feet depth.

*Loggieville, N.B.*—Under contract No. 8538, with W. J. Poupore Co., Ltd. Dredges *Prince Ito* and *Prince Louis.*

Quantity removed: 25,340 cubic yards, at 33 cents, place measurement; sand and mud.
Haul, 3 miles.
Amount paid contractor, $7,633.39; inspection, $246.44; total expenditure, $7,879.83.
Work commenced 28th May; completed 3rd August, 1912.
Object of work: Dredge channel 200 feet wide to 17 feet deep across middle ground to give access to wharfs.

*Loggieville, N.B.*—Under agreement with Northern Dredging and Construction Co., Ltd. Dredge *Invader.*

Quantity removed: 21,034.46 cubic yards, at 24½ cents, scow measurement; mud, clay and sawdust.
Haul, 2 miles.
Amount paid contractor, $5,153.44; inspection, $45.75; total expenditure, $5,199.19.
Work commenced 16th October; completed 27th November, 1912.
Object of work: To dredge berths along wharfs to give 18 feet.

*Lunenburg, N.S.*—Under contract No. 8086, with W. J. Poupore Co., Ltd. Dredge *King Edward.*

Quantity removed: 181,709 cubic yards, at 27½ cents, scow measurement; mud, clay and gravel.
Haul, 2 miles.
Amount paid contractor, $49,969.97; inspection, $410.53; total expenditure, $50,380.50.
Work commenced 11th May; completed 18th September, 1912.
Object of work: To enlarge anchorage and mooring space in harbour and give 16 and 18 feet depth.

*Larry's River, N.S.*—Under contract No. 8589, with Atlantic Dredging Co., Ltd. Dredge *Quincy.*

Quantity removed: 398·83 cubic yards, class 'A,' at $5, place measurement; 37,000 cubic yards, class 'B,' at 45 cents, place measurement; mud and boulders.
Haul, ½ mile.
Amount paid contractor, $18,644.16; inspection, $384.93; total expenditure, $19,029.09.
Work commenced 15th May; completed 23rd September, 1912.
Object of work: To dredge entrance to 10 feet and widen and deepen channel inside to 8 feet depth .

*Lanoraie, Que.*—Under contract No. 8980, with F. C. Burns. Dredge *Capital.*

Quantity removed: 24,747 cubic yards, at 20 cents; place measurement; sand.
Haul, 2,000 to 2,300 feet.
Amount paid contractor, $4,949.40; inspection, $225; total expenditure, $5,174.40.
Work commenced 18th June; completed 11th September, 1912.
Object of work: To dredge crib seats and refuge basin beside Government wharf to 10 feet.

*Lavaltrie, Que.*—Under contract No. 9043, with F. C. Burns. Dredge *Capital.*

Quantity removed: 13,573 cubic yards, at 20 cents, place measurement; clay.
Haul, 3,000 to 6,000 feet.
Amount paid contractor, $2,714.60; inspection, $195.38; total expenditure, $2,909.98.
Work commenced 14th September; completed 21st November, 1912.
Object of work: To dredge approach channel to wharf to give 10 feet depth.

*Little Black River, N.B.*—Under agreement with F. A. Fowlie. Dredge *Ste. Claire.*

Quantity removed: 10,112·84 cubic yards, at 35 cents, scow measurement; mud and slabs.
Haul, ¼ mile.
Amount paid contractor, $3,539.50; inspection, $185.50; total expenditure, $3,725.
Work commenced 7th September; completed 23rd November, 1912.
Depth of water made below zero, 2 to 3 feet.
Object of work: Dredging channel 30 feet wide and 2 feet deep across bars in river for lumber business and farm produce.

*Liverpool, N.S.*—Under agreement with Southern Salvage Co.

Removal of boulders by Str. *Coast Guard,* at $90 per day.
Amount paid contractor, $4,695; inspection, $185; total expenditure, $4,880.
Work commenced 16th September; completed 15th November, 1912.
Object of work: Removal of boulders, part of work of widening channel to 300 feet and deepening to 16 feet.

*Marble Cove, N.B.*—Under agreement with Maritime Dredging and Construction Co., Ltd. Dredge *Beacon Bar.*

Quantity removed: 16,661·5 cubic yards, at 30 cents, scow measurement; clay.
Haul, ½ mile.
Amount paid contractor, $4,998.45; inspection, $96; total expenditure, $5,094.45.
Work commenced 25th March; completed 9th April, 1912.
Object of work: Basin for anchorage to give 7 feet, and removal of flat to 2 feet to drain sewage.

*Marble Cove, N.B.*—Under contract No. 9002, with J. S. Gregory. Dredge *Keta.*

Quantity removed: 35,150·5 cubic yards, at 24 cents, place measurement; clay.
Haul, ⅝ mile.
Amount paid contractor, $8,436.12; inspection, $111; total expenditure, $8,547.12.
Work commenced 29th August; completed 10th October, 1912.
Object of work: Dredging in basin to 7 feet to give winter berths for coasting schooners.

*Midland, Ont.*—Under contract No. 8692, and agreement with Canadian Dredging Co., Ltd. Dredges *Sydenham* and *Excelsior.*

Quantity removed: (contract) 8 cubic yards, class 'A,' scow measurement, at $2.25; (contract) 45,445 cubic yards, class 'B,' at 8 cents, scow measurement; (agreement) 15,967 cubic yards, class 'B,' at 15 cents, scow measurement; clay, sand, gravel, boulders and rock.
Haul, ½ to 3 miles, contract; 2½ to 3 miles, agreement.
Amount paid contractor, $3,653.60 (contract), $2,395.05 (agreement); inspection, $124; total expenditure, $6,172.65.
Work commenced 1st June; completed 24th September, 1912.
Object of work: Contract, dredging approaches to and berths at Canada Iron Corporation dock to 25 feet; agreement, dredging along wharf at Grand Trunk elevator.

*Margaree Harbour, N.S.*—Under contract No. 9029, with Atlantic Dredging Co., Ltd. Dredge *Pepperell.*

Quantity removed: 16,415 cubic yards, at 40 cents, scow measurement; sand and mud.
Haul, 1 to 1½ miles.
Amount paid contractor, $6,566; inspection, $239.93; total expenditure, $6,805.93.
Work commenced 8th July; completed 26th September, 1912.
Object of work: To dredge anchorage space in front of fish houses to give 8 feet depth.

*Mill Cove, N.S.*—Under contract No. 8959, with Halifax Dredging Co., Ltd. Dredges *No. 1* and *No. 2.*

Quantity removed: 60,243 cubic yards, class 'B,' at 29 cents, scow measurement; mud and stone.
Haul, 4 and 1 miles.
Amount paid contractor, $17,470.48; inspection, $418.07; total expenditure, $17,888.55.
Work commenced 30th October; completed 30th January, 1913.
Object of work: Dredging channel to wharfs and anchorage basin to give depth of 18 feet.

*Mabou, N.S.*—Under agreement with Atlantic Dredging Co., Ltd. Dredge *Pepperell.*

Quantity removed: 14,400 cubic yards, class 'B,' at 30 cents, scow measurement; mud.
Haul, ¾ mile.
Amount paid contractor, $4,320; inspection, $79.83; total expenditure, $4,399.83.
Work commenced 3rd October; completed 31st October, 1912.
Object of work: To widen to 150 feet and deepen to 10 feet the channel in front of the wharf a length of about 470 feet.

*Meaford, Ont.*—Under agreement with Canadian dredging Co., Ltd. Dredge *Excelsior.*

Quantity removed: 3,000 cubic yards, class 'B,' at 32 cents, scow measurement; mud.
Haul, ½ mile.
Amount paid contractor, $960.
Work commenced 21st October; completed 25th October, 1912.
Object of work: Cleaning up to depth of 20 feet in harbour.

*Newcastle, N.B.*—Under agreements with (1) Peter England (Ferry Slip), and (2) Northern Dredging and Construction Co., Ltd. (Nordin's wharf, Ritchie's wharf and Crandall's wharf).

Quantity removed: (1) 835·3 cubic yards, at 40 cents, scow measurement; (2) 7,860·58 cubic yards, at 30 cents, place measurement; mud, clay and gravel.

| | | | |
|---|---|---|---|
| (2) Nordin's wharf | 3,425·9 | cubic yards, | $1,027 77 |
| Ritchie's wharf | 478·98 | " | 143 70 |
| Crandall's wharf | 3,955·70 | " | 1,186 71 |
| Total | 7,860·58 | " | $2,358 18 |

Haul, ½ to 1 mile.
Amount paid contractor, (1) $334.12, (2) $2,358.18; inspection, $94.30; total expenditure, $2,786.60.
Work commenced (1) 13th May, (2) 4th October; completed (1) 21st May, (2) 15th October, 1912.
Depth of water made below zero, (1) 6 feet, (2) 17 to 23 feet.
Object of work: (1) to dredge to 6 feet for public ferry landing; (2) to enable ocean-going steamers to load to 21 feet at wharfs.

*Nicolet, Que.*—Under contract No. 8504, with L. Cohen & Son. Dredges *Nichoc* and *Lanark.*

Quantity removed: 89,652 cubic yards, at 32½ cents, place measurement; clay, sand, gravel and stone.
Haul, 1 to 3 miles.
Amount paid contractor, $27,343.86; inspection, $950.11; total expenditure, $28,293.97.
Work commenced 9th May; completed 19th November, 1912.
Depth of water made below zero, 5 to 18 feet.
Object of work: To continue dredging channel 60 feet wide to give 10 feet depth to town.

*Napanee, Ont.*—Under contract No. 8934, with W. E. Phin. Dredge *Hamil.*

Quantity removed: 77,961 cubic yards, at 19 cents, place measurement; muck, mud, sawdust, boulders, hard-pan and sand.
Haul, 4¼ to 6¾ miles, at 1 cent to 4 cents extra.
Amount paid contractor, $16,954.77; inspection, $503.46; total expenditure, $17,458.23.
Work commenced 20th June; completed 1st December, 1912.
Object of work: Improvement of channel of Napanee river between Napanee and Bay of Quinte to 9 feet depth.

*Nashwaak River, N.B.*—Under agreement with St. John River Dredging and Construction Co. Dredge *Tantawanta.*

Quantity removed: 1,843·9 cubic yards, at 40 cents, scow measurement; gravel.
Haul, 2½ miles.
Amount paid contractor, $737.56.
Work commenced 20th July; completed 24th July, 1912.
Object of work: To dredge a channel through bar at mouth of Nashwaak river to 7 feet depth.

*N. W. Miramichi, N.B. (Lawlor's Shore).*—Under agreement with Peter England. Dredge *Peter England.*

Quantity removed: 5,308·94 cubic yards, at 37 cents, scow measurement; gravel and sand.
Haul, 1 mile.
Amount paid contractor, $1,964.31; inspection, $85.20; total expenditure, $2,049.51.
Work commenced 21st September; completed 31st October, 1912.
Object of work: To dredge channel in river for steamers and lumber traffic, 100 feet wide and 5 feet deep.

*Nelson, N.B.*—Under agreement with Northern Dredging and Construction Co., Ltd. Dredge *Hayward.*

Quantity removed: 567·73 cubic yards, at 30 cents, place measurement; mud, gravel and boulders.
Haul, 2 miles.
Amount paid contractor, $170.32; inspection, $23; total expenditure, $193.32.
Work commenced 21st October; completed 24th October, 1912.
Depth of water made below zero, 22 and 15 feet.
Object of dredging: To give 22 feet in length in front of D. Lynch & Sons' wharf for ocean-going steamers.

NOTE.—209·99 cubic yards, scow, reported but not settled for to 1st June, 1913.

*Ox Island, N.B.*—Under contract No. 8568, with New Brunswick Construction Co., Ltd. Dredge *New Brunswick No. 1.*

Quantity removed: 10,367·5 cubic yards, at 24½ cents, place measurement; sand and clay.
Haul, ½ mile.
Amount paid contractor, $2,540.04; inspection, $55; total expenditure, $2,595.04.
Work commenced 22nd July; completed 9th August, 1912.
Object of dredging: To give 22 feet in front of D. Lynch & Sons' wharf for ocean-going steamers.

*Port Arthur and Fort William.*—Under contract No. 5992, with Great Lakes Dredging Co. Dredges *Dominion, No. 6, No. 5,* and *No. 1.*

Quantity removed: 39,063 cubic yards, at 9 cents, scow measurement; clay and sand.
Haul, 5·5 to 6·5 miles, at 3 cents extra.
Amount paid contractor, $4,687.56; inspection, $225; total expenditure, $4,912.56.
Work commenced 14th May; completed (for season) 30th September, 1912.
Depth of water made below zero, 22 feet.
Object of work: General development of harbour, deepening of rivers and entrance channels to 22 feet.

*Port Arthur and Fort William.*—Under contract No. 7170, with Great Lakes Dredging Co., Ltd. Dredges *No. 8, No. 7, Province, Imperial* and *Empire.*

Quantity removed: 15,413 cubic yards, at 17 cents, scow measurement; 220,889 cubic yards, back filling, at 18½ cents, place measurement; sand and clay. Total, 236,302 cubic yards.
Haul, 15,413 cubic yards, 3·8 miles.
Amount paid contractor, $43,466.15; inspection, $211; total expenditure, $43,677.15.
Work commenced 17th May; completed 7th December, 1912.
Depth of water made below zero, 25 feet.
Object of work: Development of G. T. P. basin, construction of revetment wall and backfilling behind revetment wall, all being part of development of G. T. P. terminals.

*Port Arthur and Fort William (McKellar River).*—Under contract No. 8787, with Great Lakes Dredging Co., Ltd. Dredges *Dominion, Shuniah, No. 15, No. 6, No. 5* and *No. 1.*

Quantity removed: 1,595,784 cubic yards, at 17½ cents and 20½ cents, place measurement; clay and hard-pan (357,367 cubic yards handled by hydraulic dredge.)
Haul, 5·6 to 6·2 miles.
Amount paid contractor, $317,398.53; inspection, $2,281; total expenditure, $319,679.53.
Work commenced April 20th; completed (for season) November 30th, 1912.
Depth of water made below zero, 25 feet.
Object of work: Opening up, widening and deepening McKellar river for navigation purposes, more particularly for C. P. Ry. for use of their coal dock property on Island No. 1.

*Port Arthur, Ont.*—Under contract No. 7386, with W. E. Phin. Dredges *Kennequhair* and *Chief.*

Quantity removed: 3 cubic yards, class 'A,' at $2, place measurement; 4,608 cubic yards, class 'A,' not blasted, at 60 cents, scow measurement; 830,056 cubic yards, at 13 cents, scow measurement; 6,430 cubic yards, cast over, at 8⅔ cents, scow measurement; clay, sand, gravel and rock. Total, 841,097 cubic yards.
Haul, 2 miles.
Amount paid contractor, $111,579.57 (removing piles, $100 included); inspection, $808; total expenditure, $112,387.57.
Work commenced 16th May; completed 27th November, 1912.
Depth of water made below zero, 14 to 26 feet.
Object of work: Widening channel in harbour to 1,200 feet and deepening to 25 feet; to dredge corner of coal dock channel near elevator; widening channel to King's elevator to 400 feet and deepening to 25 feet; re-dredging slips; removal of rock in Thunder Bay elevator channel.

*Port Arthur and Fort William (C. P. Ry. slip).*—Under contract No. 9175, with Great Lakes Dredging Co., Ltd. Suction dredge *Shuniah* and *No. 8.*

Quantity removed: 119,303 cubic yards (109,095 cubic yards at 25 cents, 10,208 cubic yards at 26 cents, place measurement); clay; (119,303 cubic yards handled by hydraulic dredge.)
Haul, 3·6 miles.
Amount paid contractor, $29,927.83; inspection, $185; total expenditure, $30,112.83.
Work commenced October 21st; completed (for season) December 5, 1912.
Depth of water made below zero, 25 feet.

Object of work: Developmeent of new dockage for C. P. Ry. so as to enable company to use new freight shed and rail docks.

*Port Arthur and Fort William.*—Under contract No. 7339, with Great Lakes Dredging Co., Ltd. Dredges *Dominion, No. 8, No. 6, No. 5* and *No. 1.*

Quantity removed:

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Class 'A,' | 915 | cubic yards, | at | $2.40 | scow measurement. | | |
| Class 'B' | 244,096 | " | " | 0.10½c. | scow; | haul, | 3·5 miles. |
| " " | 340,722 | " | " | 0.11½c | " | " | 3·5 to 4·5 miles. |
| " " | 1,098,652 | " | " | 0.12½c. | " | " | 4·5 to 5·5 " |
| " " | 685,695 | " | " | 0.13½c. | " | " | 5·5 to 6·5 " |
| " " | 43,210 | " | " | 0.14½c. | " | " | 6·5 to 7·5 " |
| " " | 49,681 | " | " | 0.25½c. | " | " | 5·5 to 6·5 " |
| | 2,462,371 | cubic yards, clay and rock. | | | | | |

Haul, see above.

Amount paid contractor, $309,738.98; inspection, $1,839; total expenditure, $311,577.98.

Work commenced May 14th; completed December 17, 1912.

Depth of water made below zero, 25 feet.

Object of work: General development of Fort William harbour, both widening and deepening Kaministiquia and Mission rivers and entrance channels to same.

*Port Arthur, Ont. (Dry Dock revetment wall).*—Under contract No. 9122, with Great Lakes Dredging Co., Ltd. Dredges *No. 1* and *No. 15.*

Quantity removed: 31,194 cubic yards, hard material, at 62½ cents, scow measurement; 18,771 cubic yards, soft material, at 20 cents, scow measurement.

Haul, 1¼ miles.

Amount paid contractor, $23,250.45; inspection, $260; total expenditure, $23,510.45.

Work commenced 14th October; completed 10th December, 1912.

Object of work: To dredge a slip along dry dock revetment wall to 17 feet deep.

*Picnic Islands, Ont.*—Under contract No. 7816, with C. S. Boone Dredging and Construction Co., Ltd. Dredge *No. 14.*

Quantity removed: 60,093·6 cubic yards, at $1.70, scow measurement; rock.

Haul, 1¼ mile.

Amount paid contractor, $102,159.12; inspection, $475.12; total expenditure, $102,634.24.

Work commenced 20th May; completed 4th November, 1912.

Object of work: To improve Picnic Islands channel to give 22 feet depth.

*Penetanguishene, Ont.*—Under contract No. 9690, and agreement with Penetanguishene Dredging Co. Dredge *Hacket.*

Quantity removed: 8,850 cubic yards (agreement), at 12 cents, place measurement; 2,006 cubic yards (contract), at 15 cents, place measurement; clay, sand, gravel and boulders.

Removal of wreck, $900.

Haul, 1½ and 2 miles.

Amount paid contractor, $1,062 (agreement), $300.90 (contract); and $900 for removal of wreck; inspection, $97.50; total expenditure, $2,360.40.

Work commenced, June; completed 20th October, 1912.

Depth of water made below zero, 16 feet.

Object of work: To dredge channel to lumber wharfs and to dredge alongside wharf to give 16 feet.

NOTE.—No payment made for removal of 8,850 cubic yards.

*Pointe aux Trembles, Que.*—Under agreement with W. J. Poupore Co., Ltd. Dredge *Prince Guy.*

Quantity removed: 10,855 cubic yards, at 30 cents, place measurement; clay and stone. (Cast over, 1,542 cubic yards, clay and stone.)
Haul, 1 mile.
Amount paid contractor, $3,102.30; inspection, $132; total expenditure, $3,234.30.
Work commenced 4th July; completed 22nd August, 1912.
Object of work. To dredge approach to Government wharf to 10 feet depth.

*Port Hope, Ont.*—Under contract No. 8887, and agreement with R. Weddell & Co. Dredge *Trenton.*

Quantity removed: 6,190 cubic yards, class 'A' (contract), at $4.50, place measurement; 1,622 cubic yards, class 'B' (agreement), at 24 cents, scow measurement; rock and mud.
Amount paid contractor, $27,855 (under contract), $389.28 (under agreement); inspection, $365.02; total expenditure, $28,609.30.
Work commenced 14th October; completed 7th December, 1912.
Object of work: To improve approaches to harbour and deepen inside to 16 feet.

*Perry Point, N.B.*—Under contract No. 8945, with Maritime Dredging and Construction Co., Ltd. Dredges *New Brunswick No. 1* and *No. 2.*

Quantity removed: 19,758·6 cubic yards, at 19½ cents, scow measurement; clay, mud, stone and timber.
Haul, ¼ to 1 mile.
Amount paid contractor, $3,918 (including removal of wreckage); inspection, $69.39; total expenditure, $3,987.39.
Work commenced 1st November; completed 22nd November, 1912.
Depth of water made below zero, 6 to 9 feet.
Object of work: To improve the channel of the St. John river between Perry Point and Murphy's low-water wharf.

*Picton, Ont.*—Under contract No. 8990, with Fallon Bros. Dredge *D. Stewart.*

Quantity removed: 37,195 cubic yards, at 17 cents, place measurement; mud.
Amount paid contractor, $6,323.15; inspection, $274.64; total expenditure, $6,597.79.
Completed 12th December, 1912.
Object of work: To improve the channel to and inside harbour, making it 300 feet wide and 12 feet deep.

*Parry Sound, Ont.*—Under agreement with C. S. Boone Dredging and Construction Co., Ltd. Dredge *Kingsford.*

Quantity removed: 7,407 cubic yards, class 'B,' at 29 cents, place measurement; sand, clay and sawdust.
Haul, 1 mile.
Amount paid contractor, $2,148.03; inspection, $44.26; total expenditure, $2,192.29.
Work commenced 25th September; completed 15th October, 1912.
Object of work: Dredging channel to and alongside Government wharf to 18 feet.

*Petit de Grat, N.S.*—Under contract No. 7814, with W. J. Poupore Co., Ltd. Dredge *King Edward.*

Quantity removed: 281·4 cubic yards, class 'A,' at $5, scow measurement; 22,031 cubic yards, class 'B,' at 55 cents, scow measurement; boulders and hard-pan.
Haul, 1 mile.

Amount paid contractor, $13,524.05; inspection, $118.26; total expenditure, $13,642.31.
Work commenced 11th October; completed 20th November, 1912.
Object of work: To deepen channel and approaches to wharfs to give 13 feet depth.

*Port Stanley, Ont.*—Under contract No. 9140, with Windsor Dredging Co., Ltd. Dredge *Peltier.*

Quantity removed: 19,779 cubic yards, at 27 cents, scow measurement; sand, clay, gravel, quick-sand and silt.
Haul, 2 miles.
Amount paid contractor, $5,340.33; inspection, $139.80; total expenditure, $5,480.13.
Work commenced 21st October, 1912; completed 28th March, 1913.
Object of work: To maintain 22 feet in entrance and 20 feet in harbour.

*Quebec Harbour, Que.*—Under contract No. 7801, with Dominion Dredging Co., Ltd. Dredges *Fundy, Bruxelles and Stephen D.*

Quantity removed: 136.5 cubic yards, class 'A,' at $2.25, scow measurement; 679,559 cubic yards, class 'B,' at 20 cents, scow measurement; sand, gravel and boulders.
Haul, ¼ to ½ mile.
Amount paid contractor, $136,227.13; inspection, $1,379.75; total expenditure, $137,606.88.
Work commenced 2nd May; completed 12th December, 1912.
Object of work: To continue channel to berth at pier No. 1 to give 35 feet depth.

*River St. Lawrence (Kingston to Brockville).*—Under contract No. 7116, with Montreal General Contracting Co. Dredges *No. 2* and *Ottawa.*

Quantity removed: 4,949·5 cubic yards, at $3.95, place measurement; rock.
Haul, 400 feet to 700 rods.
Amount paid contractor, $19,550.55; inspection, $167.50; total expenditure, $19,718.05.
Work commenced 22nd June (drilling and blasting); completed 11th December, 1912.
Object of work: To improve middle or Canadian channel to give 16 feet depth.

*Richibucto, N.B.*—Under contract No. 8547, with W. J. Poupore Co., Ltd. Dredge *Prince Ito.*

Quantity removed: 85,870·15 cubic yards, at 30 cents, scow measurement; sand.
Haul, 2 miles.
Amount paid contractor, $25,761.05; inspection, $272; total expenditure, $26,033.05.
Work commenced 3rd July; completed 18th October, 1912.
Object of work: To dredge channel at entrance to harbour to give 15 feet depth.

*River Bourgeois, N.S.*—Under contract No. 9051, with Coastal Dredging Co., Ltd. Dredge *Cadeco.*

Quantity removed: 14·67 cubic yards, class 'A,' at $8.50, place measurement; 66,903·0 cubic yards, class 'B,' at 22 cents, scow measurement; (cast over, 17,300 cubic yards of above, class 'B,' at 14⅔ cents; mud, clay, gravel and boulders).
Haul, 1 mile.
Amount paid contractor, $14,287.69 (including $713 for removal of wreckage); inspection, $209.33; total expenditure, $14,497.02.
Work commenced 28th August; completed 12th November, 1912.
Object of work: To dredge channel through bar at entrance and to deepen in front of wharfs on eastern arms to 10 feet.

*River St. Louis, N.B.*—Under agreement with M. J. Poirier. Dredge *St. Louis Star.*

Quantity removed: 4,877.72 cubic yards, at 35 cents, scow measurement; mud and sand.
Haul, ¼ mile.
Amount paid contractor, $1,707.20; inspection, $124.25; total expenditure, $1,831.45.
Work commenced 8th August, completed 3rd October, 1912.
Object of work: To cut channel through shoal in entrance channel to give 3 feet depth.

*Rainy River, Ont.*—Under contract No. 7889, with J. T. Horne. Dredge *Moose.*

Quantity removed: 65,982 cubic yards, at 37 cents, scow measurement; clay, mud and sand.
Haul, 1 to 3¼ miles.
Amount paid contractor: $24,413.34; inspection, $513.30; total expenditure, $24,926.64.
Work commenced 17th August; completed 23rd November, 1912.
Object of work: To dredge channel at mouth of river to give 13 feet depth.

*St. Charles River, Que.*—Under contract 7927, with Etienne Dussault Co. Dredges *Stephen D.* and *Bruxelles.*

Quantity removed: 273,006 cubic yards, at 9 cents, scow measurement; sand.
Haul, ¾ mile.
Amount paid contractor: $24,570.54 (inspection included in Quebec harbour).
Work commenced 9th May; completed 8th July, 1912.
Object of work: Dredging channel 300 feet wide to 15 feet deep to give access to the proposed dam and lock.

*St. John Harbour, N.B. (Beacon Bar).*—Under contract No. 7304, with Maritime Dredging and Construction Co., Ltd. Dredges *Cynthia, Beacon Bar, Beaver, Iroquois* and *St. John.*

Quantity removed: 1,831,340·3 cubic yards, at 39½ cents, scow measurement; clay, sand, mud and gravel.
Haul, 2½ miles.
Amount paid contractors, $723,379.44 (includes Rodney Slip); inspection, $12,953.30; total expenditure, $736,332.74.
Work commenced 1st April, 1912; completed 3rd March, 1913.
Depth of water made below zero, 32 to 33 feet.
Object of work: Removal of the Beacon bar, and deepening Rodney slip.

*St. Maurice River, Que.*—(1) Under agreement with Antoine St. Pierre; (2) under contract No. 8846, with Antoine St. Pierre, dredge *St. Pierre;* (3) under agreement with F. C. Burns, dredge *Capital.*

Quantity removed: 90,633 cubic yards—(1) 17,625 cubic yards, at 22 cents, scow measurement; (2) 59,898 cubic yards, at 12 cents, scow measurement; (3) 13,110 cubic yards, at 12 cents, scow measurement; sand, clay, hard-pan and boulders.
Haul, 700 feet to 2 miles.
Amount paid contractor: (1) $3,877.50, (2) $7,187.76, (3) $1,573.20, total, $12,638.46; inspection, $211.70; total expenditure, $12,850.16.
Work commenced 10th May; completed 15th August, 1912.
Depth of water made below zero: (1) 2·2 to 12 feet; (2) 4 to 7 feet; (3) 4 feet.
Object of work: To dredge a channel 4 feet deep for floating logs; to dredge a channel in eastern branch of river to give 8 feet depth to loading wharfs.

*Summerside, P.E.I.*—Under contract No. 8573, with Dominion Dredging Co., Ltd. Dredge *Delver.*

Quantity removed (193,627·4 cubic yards): 143,629·3 cubic yards, at 35 cents, scow measurement; 49,998·1 cubic yards, at 30 cents, scow measurement; boulders, clay, sand and mud.
Haul, 3 to 3½ miles.
Amount paid contractor, $65,269.69; inspection, $602.65; total expenditure, $65,872.34.
Work commenced 13th May; completed 11th November, 1912.
Depth of water made below zero, 18 to 20 feet.
Object of work: Widening channel and removing shoal to give 18 feet depth at low water spring tides.

*St. Peter's Channel, Que.*—Under agreement with General Improvement and Contracting Co. Dredge *Moberly.*

Quantity removed: 24,481 cubic yards, at 19½ cents, scow measurement; clay.
Haul, ½ mile.
Amount paid contractor, $4,773.79; inspection, $140.25; total expenditure, $4,914.04.
Work commenced 27th May; completed 11th July, 1912.
Object of work: To shorten channel between St. Sulpice and Verchères by dredging channel 50 feet wide, 8 feet deep.

*Shediac, N.B.*—Under contract No. 8606, with General Construction and Dredging Co. Dredge *Bruiser.*

Quantity removed: 49,357 cubic yards, at 38 cents, place measurement (cast over 1,000 cubic yards of above); mud, clay and shells.
Haul, 3 to 4¾ miles. (Over-haul on 48,357 cubic yards.)
Amount paid contractor, $20,173.54; inspection, $323.65; total expenditure, $20,497.19.
Work commenced 31st May; completed 12th October, 1912.
Object of work: To continue dredging approach to wharf and around wharf to 12 feet depth.

*Saguenay River, Que.*—Under contract No. 8738, with Continental Dredging Co. Dredges *Algonquin* and *Bruxelles.*

Quantity removed: 17 cubic yards, class 'A,' at $2.50, place measurement; 249,425 cubic yards, class 'B,' at 32½ cents, scow measurement; sand, gravel, boulders and clay.
Haul, 1 to 7 miles.

| | | | | | |
|---|---|---|---|---|---|
| 3¾ miles | 12,024 | cubic yards at | 1½ | cents extra | (over-haul). |
| 6 " | 8,532 | " " | 4½ | " | " |
| 7 " | 1,188 | " " | 6 | " | " |
| | 21,744 | | | | |

Amount paid contractor, $81,741.21; inspection, $976.60; total expenditure, $82,717.81.
Work commenced 11th June; completed 16th November, 1912.
Object of work: To continue improvement making channel 250 feet wide and 18 feet deep.

*South Lancaster, Ont.*—Under contract No. 8989, with Fallon Bros. Dredge *No. 3.*

Quantity removed: 38,634 cubic yards, at 17 cents, place measurement, sand and clay.
Haul, 1 mile.
Amount paid contractor, $6,567.78; inspection, $390.50; total expenditure, $6,958.28.
Work commenced 11th June; completed 11th October, 1912.
Object of work: To dredge alongside wharf and in channel to 10 feet.

*St. Andrews, N.B.*—Under contract No. 8944, with Maritime Dredging and Construction Co., Ltd. Dredge *Beacon Bar.*

Quantity removed: 60,000·3 cubic yards, class 'B,' at 24½ cents, scow measurement; mud, sand, clay and gravel.
Haul, 2 to 2½ miles.
Amount paid Contractor, $14,700.08; inspection, $270.54; total expenditure, $14,970.62.
Work commenced 22nd June; completed 27th August, 1912.
Depth of water made below zero, 10, 12 and 15 feet.
Object of work: To provide channel from east and a turning basin; depths, 10 to 15 feet.

*St. Francis River, Que.*—Under contract No. 8604, with Bastien, Laurin and Leitch. Dredge *No. 6.*

Quantity removed: 145,044 cubic yards, at 16 cents, scow measurement; sand, clay and gravel.
Haul, ¼ to 1 mile.
Amount paid contractor, $23,207.04; inspection, $518.50; total expenditure, $23,725.54.
Work commenced 20th May; completed 20th November, 1912.
Object of work: To continue improvement of channel in river to head of navigation, giving 8 feet depth.

*Sydney harbour, N.S.*—Under contract No. 8919, with Coastal Dredging and Construction Co., Ltd. Dredge *Cadeco.*

Quantity removed: 25,660 cubic yards, at 34 cents, scow measurement (cast over 654 yards of above); sand, clay and stone.
Haul, 4¾ to 5 miles, at 3 cents extra.
Amount paid contractor, $9,400.46; inspection, $126.76; total expenditure, $9,527.22.
Work commenced 9th July; completed 20th August, 1912.
Object of work: To dredge approach to give 11 feet depth to public wharf at Sydney pier.

*Sault Ste. Marie, Ont.*—Under contracts Nos. 8960 and 9065, with Soo Dredging and Construction Co., Ltd. Dredges *No. 3, No. 5* and *No. 8.*

Quantity removed: (8960) 33,788 cubic yards, class 'A,' at $3.47, place measurement, and 8,698 cubic yards, class 'B,' at 92 cents, place measurement; (9065) 3,643 cubic yards, class 'A,' at $3.47, place measurement, and 10,939 cubic yards, class 'B,' at 92 cents, place measurement; solid rock, mud, boulders and hard-pan.
Haul, 2½ to 3 miles.
Amount paid contractor, $147,951.61; inspection, $930.61; total expenditure, $148,882.22.
Work commenced 31st August; completed 2nd December, 1912.
Object of work: To widen channel and deepen to 21·5 feet between New Ontario dock and entrance to canal, and widening and deepening slips at New Ontario dock and at Ferry dock.

*St. George, N.B.*—Under contract No. 8971 with Maritime Dredging and Construction Co., Ltd. Dredge *Beacon Bar.*

Quantity removed: 37,261·3 cubic yards, at 49 cents, scow measurement; edgings, mud and sand.
Haul, 6 miles, at 4½ cents per cubic yard extra.
Amount paid contractor, $19,934.80; inspection, $287.36; total expenditure, $20,222.16.
Work commenced 28th August; completed 16th November, 1912.
Depth of water made below zero, 8 and 9 feet.

*Shippegan Gully, N.B.*—Under contract with W. J. Poupore Co., Ltd. Dredge *Prince Louis.*

Quantity removed: 3,408.29 cubic yards, scow measurement, removed; contract price, 40 cents, place measurement; clay and sand.
No payment to be made until work is proceeded with in 1913.
Inspection, $43.
Work commenced 1st November, 1912.
Object of work: To widen ship channel to 200 feet and deepen to 8 feet.

*Sydenham River, Ont.*—Under agreement with Chatham Dredging Co.

Quantity removed: 3,734 cubic yards, class 'B,' at 25 cents, place measurement.
Amount paid contractor, $933.50.

*Toronto, Ont. (Hanlan's Point).*—Under contract No. 8862, with General Construction and Dredging Co. Dredge *Edmund Hall.*

Quantity removed: 58,946 cubic yards, at 15 cents, place measurement; sand and clay.
Haul, 2½ miles.
Amount paid contractor, $8,841.90; inspection, $489; total expenditure, $9,330.90.
Work commenced May; completed 7th September, 1912.
Object of work: Channel 8 feet deep to wharfs.

*Toronto, Ont. (Eastern Gap).*—Under contract No. 8924, with R. Weddell & Co. Dredge *I.X.L.*

Quantity removed: 135,896 cubic yards, at 17½ cents, scow measurement; sand.
Haul, 1 to 2 miles.
Amount paid contractor, $23,766.05; inspection, $347; total expenditure, $24,113.05.
Work commenced 24th June; completed 18th November, 1912.
Depth of water made below zero, 22 to 25 feet.
Object of work: To dredge Eastern entrance channel to give 25 feet.

*Tiffin, Ont.*—Under contract No. 6866, with Canadian Dredging Co., Ltd. Dredges *Excelsior, Monarch* and *Leland.*

Quantity removed: 53,568½ cubic yards, class 'A,' at $2.25, scow measurement; 16,149⅝ cubic yards, class 'B,' at 29 cents, scow measurement; rock, clay, sand, gravel and boulders.
Haul, 1 to 2½ miles.
Amount paid contractor, $125,212.19; inspection, $489.96; total expenditure, $125,702.15.
Work commenced 7th June; completed 6th December, 1912.
Depth of water made below zero, 25 feet.
Object of work: Dredging slip in front of G. T. elevator to give 25 feet.

*Telegraph and Nigger Islands, Ont.*—Under contract No. 9015, with R. Weddell & Co. Dredge *Togo.*

Quantity removed: 8,247 cubic yards, at $4.50, place measurement; solid rock.
Amount paid contractor, $37,111.50; inspection, $255.90; total expenditure, $37,367.40.
Work commenced October; completed 20th November, 1912.
Object of work: To widen to 200 feet and deepen to 16 feet the steamboat channels.

*Trenton, Ont.*—Under contract No. 8921, with John E. Russell. Dredge *Jack Canuck.*

Quantity removed: 2,342 cubic yards, class 'A,' at $3.30, place measurement; solid rock.
Amount paid contractor, $7,728.60; inspection, $58.61; total expenditure, $7,787.21.
Work commenced 1st December; completed 15th December, 1912.
Object of work: Dredging eastern entrance to 14 feet.

*Victoria Harbour, Ont.*—Under contract No. 6865, with Canadian Dredging Co., Ltd. Dredges *Monarch, Leland, Sydenham* and *Excelsior.*

Quantity removed: 32,761 cubic yards, class 'A,' at $2.25, scow measurement; 644,620⅓ cubic yards, class 'B,' at 12½ cents, scow measurement; clay, sand, gravel, boulders, hard-pan and solid rock.
Haul, 1 to 3 miles.
Amount paid contractor, $148,179.47; inspection, $1,698.82; total expenditure, $149,878.29.
Work commenced 3rd May; completed 13th December, 1912.
Depth of water made below zero, 21 to 26 feet.
Object of work: To dredge slip to C. P. Ry. wharfs.

*Varennes, Que.*—Under contract No. 8958, with General Improvement and Contracting Co. Dredges *Nehoc* and *Moberly.*

Quantity removed: 36,197 cubic yards, at 19½ cents, scow measurement; clay.
Haul, ½ to ⅝ mile.
Amount paid contractor, $7,058.42; inspection, $296.73; total expenditure, $7,355.15.
Work commenced 18th July; completed 14th September, 1912.
Object of work: To dredge points at side of channel at Bout de l'Isle to give 6 feet depth.

*Verchères, Que.*—Under contract with W. J. Poupore Co., Ltd. Dredge *Prince Willie.*

Quantity removed: 15,615 cubic yards, at 29 cents, place measurement; sand and clay.
Haul, 1¼ mile.
Amount paid contractor, $4,528.35; inspection, $111; total expenditure, $4,639.35.
Work commenced 26th August; completed 6th October, 1912.
Object of work: To provide basin and wharf accommodation for barges and boats; depth, 6 and 10 feet.

*Vernon River, P.E.I.*—Under contract No. 8938, with Island Dredging and Construction Co. Dredge *Ferguson.*

Quantity removed: 13,623·1 cubic yards, at 24 cents, scow measurement; mud.
Haul, 2 miles.
Amount paid contractor, $3,269.54; inspection, $84; total expenditure, $3,353.54.
Work commenced 21st August; completed 28th September, 1912.
Object of work: Channel approach to wharfs 100 feet wide to 10 feet deep.

*Woodlands, Que.*—Under contract No. 8915, with General Improvement and Contracting Co. Dredges *Central City* and *Mogul.*

Quantity removed: 63,019 cubic yards, at 16 cents, scow measurement; sand and clay.
Haul, ½ to ¾ mile.
Amount paid contractor, $10,083.04; inspection, $369.53; total expenditure, $10,452.57.
Work commenced 12th June; completed 31st August, 1912.
Object of work: To dredge channel 75 feet wide, 10 feet deep, through shoal extending from Beauharnois to entrance of Chateauguay river.

*Whitehead, N.B.*—Under agreement with New Brunswick Construction Co., Ltd. Dredge *No. 2.*

Quantity removed: 490·5 cubic yards, at 30 cents, scow measurement; mud, sand and stone.

No payment made, work not being completed.
Work commenced 17th August; completed 31st October, 1912.
Object of work: To give required depth of 9 feet at wharf.

*Weymouth, N.S.*—Under contract No. 9028, with Halifax Dredging Co. Ltd. Dredge *Ferguson.*

Quantity removed: 3⅓ cubic yards, class 'A,' not included in payment; 12,532 cubic yards, class 'B,' at 48½ cents, scow measurement; mud, stones, gravel and boulders.
Haul, 2½ miles.
Amount paid contractor, $6,078.02; inspection, $60.66; total expenditure, $6,138.68.
Work commenced 11th November; completed 6th December, 1912.
Object of work: To dredge channel at mouth of Sissiboo river 200 feet wide and 8 feet deep.

*Yarmouth, N.S. (Sollows Shoal).*—(1) Under agreement and (2) contract No. 9013, with Dominion Dredging Co., Ltd.

Quantity removed: (1) 30.6 cubic yards, class 'A,' at $7, place measurement; (1) 52,760 cubic yards, class 'B,' at 22½ cents, place measurement; (2) 22,121 cubic yards, class 'B,' at 22½ cents, place measurement; mud, sand, gravel, hard-pan and boulders.
Haul: (contract) 2½ miles; (agreement) 3½ miles to 4½ miles, 1 cent extra.
Amount paid contractor, (1) $12,085.19, (2) $5,198.43; inspection, $649.15; total expenditure, $17,932.77.
Work commenced 31st August; completed 18th December, 1912.
Depth of water made below zero, 18 and 21 feet.
Object of work: To dredge Sollows's Rock shoal to give entrance channel 20 feet deep and 300 feet wide, and widen inner harbour.

# DREDGING PLANT UNDER CONTROL OF THE DEPARTMENT OF PUBLIC WORKS, 1913.

## Dredges.

### MARITIME PROVINCES.

*Dredges are now numbered instead of named; dredge No 1 was formerly the 'Fielding' and so on through the list.*

*No. 1—Fielding.—Type,* self-propelling elevator and hydraulic dredge. Length over all, 147 feet; beam over all, 42 feet; draught, 15 feet 6 inches; working depth, from 16 to 54 feet, with elevator; constructed of steel; 3 engines; cylindrical boiler, pressure allowed, 180 pounds; average daily dredging capacity, 5,000 cubic yards; burns about 6 tons of coal per day of 10 hours.

Built by Government at Sorel, 1905.

*No. 2—St. Lawrence.*—Type, self-propelling elevator dredge. Length over all, 170 feet; beam over all, 80 feet; draught, 8 feet; working depths, from 10 to 28 feet; constructed of steel; 2 engines; marine boiler, pressure allowed, 60 pounds; average daily dredging capacity, 1,400 cubic yards; burns about 1 ton of coal per day of 10 hours.

Purchased from Simons & Co., Renfrew, Scotland, 1874.

*No. 3—Restigouche.*—Type, self-propelling hydraulic dredge. Length over all, 161 feet 8 inches; beam over all, 30 feet; draught, light, 5 feet 6 inches; working depths, from 14 to 40 feet; constructed of steel; one engine; Scotch boiler, pressure allowed, 160 pounds; average daily dredging capacity, 2,300 cubic yards; burns about 3½ tons of coal per day of 10 hours.

Purchased from United States Engineering Company.

*No. 4*—Type, dipper dredge, 2½ cubic yards capacity. Length over all, 90 feet; beam over all, 34 feet; draught, when towing, 6 feet 6 inches; working depths, from 8 to 22 feet; constructed of wood; 12 engines; Scotch marine boiler, pressure allowed, 140 pounds; average daily dredging capacity, 900 cubic yards; burns about 2¾ tons of coal per day of 10 hours.

Built by Government, Ottawa shipyard, 1911.

*No. 5—Northumberland.*—Type, suction dredge. Length over all, 138 feet; beam over all, 52 feet; draught, without spuds, 5 feet 8 inches; working depths, from 5 to 50 feet; constructed of steel; 12 engines; Scotch boilers, pressure allowed, 160 pounds; average daily dredging capacity, 4,000 cubic yards; burns about 8 tons of coal per day of 10 hours.

Purchased from Polson Iron Works, Toronto, Ont., 1906.

*No. 6—Cape Breton.*—Type, dipper dredge. Length over all, 91 feet 6 inches; beam over all, 38 feet 3 inches; draught, when towing, 5 feet 9 inches; working depths, from 15 to 32 feet; constructed of steel; 6 engines; marine boiler, pressure allowed, 140 pounds; one 2 cubic yard dipper and one 5 cubic yard dipper, used according to hardness of material; average daily dredging capacity, 1,750 cubic yards; burns about 1½ tons of coal per day of 10 hours.

Purchased from Carrier Laine & Company, Quebec, in 1896.

*No. 7—Canada.*—Type, self-propelling elevator dredge. Length over all, 132 feet; beam over all, 20 feet 5 inches; draught, 6 feet; working depth, from 4 to 17 feet; constructed of iron; 2 engines, Scotch boiler, pressure allowed, 60 pounds; average daily dredging capacity, 750 cubic yards; burns about 3 tons of coal per working day of 10 hours.

Purchased from Simons & Company, Renfrew, Scotland, 1872.

*No. 8—Geo. McKenzie.*—Type, dipper dredge, 2 cubic yards' capacity. Length over all, 86 feet 6 inches; beam over all, 29 feet 6 inches; draught, when towing, 5 feet 5 inches; working depths, from 7 to 26 feet; constructed of wood; one engine; locomotive boiler, pressure allowed, 65 pounds; average daily dredging capacity, 300 cubic yards; burns about 1¼ tons of coal per day of 10 hours.

Purchased from John Ross and McKay, in 1879.

Hull reconstructed in 1902.

*No. 9—Montague.*—Type, dipper dredge, 2 cubic yards capacity. Length over all, 90 feet; beam over all, 38 feet; draught, when towing, 5 feet; working depths, from 7 to 26 feet; constructed of steel; 3 engines; marine boiler, pressure allowed, 140 pounds; average daily dredging capacity, 700 cubic yards; burns about 1½ tons of coal per day of 10 hours.

Purchased from Bertram Engine Works, Toronto, Ont., 1906.

*No. 10—Prince Edward.*—Type, dipper dredge, 1¼ cubic yards capacity. Length over all, 80 feet; beam over all, 26 feet; draught, when towing, 5 feet 6 inches; working depths, from 9 to 25 feet; constructed of wood; one engine; locomotive boiler, pressure allowed, 50 pounds; average daily dredging capacity, 450 cubic yards; burns about ¾ ton of coal per day of 10 hours.

Purchased from local Government, P.E.I., 1873.

*No. 11—Pownal.*—Type, dipper dredge, 1 cubic yard capacity. Length over all, 65 feet; beam over all, 25 feet; draught, when towing, 4 feet; working depths, from 6 to 20 feet; constructed of wood; 2 engines; Scotch marine boiler, pressure allowed, 125 pounds; average daily dredging capacity, 300 cubic yards; burns about 1¼ tons of coal per day of 10 hours.

Purchased from Burns & Waters.

*No. 12.*—Type, suction dredge, 15-inch pump; length, 110 feet; breadth, 30 feet; depth moulded, 7 feet 8 inches; triple expansion engine, $\frac{8\frac{1}{2} \times 13\frac{1}{2} \times 22}{16}$; Scotch marine boiler, 10 feet diameter by 12 feet long, working pressure, 160 pounds.

Under construction at Phoenix Iron Works, St. John, N.B.

*No. 13.*—Type, dipper dredge, 3½ cubic yards capacity. Length over all, 90 feet; beam, 34 feet; depth over all, bow 9 feet 6 inches; depth over all, stern 8 feet 6 inches; constructed of wood; Scotch marine boiler, 8 feet 6 inches diameter, 9 feet 10 inches long; working pressure, 125 pounds; main engines, 12 inches by 14 inches.

Under construction at Government shipyard, Ottawa.

*Rock breaker.*—Lobnitz rock breaker; length, 100 feet; beam moulded, 36 feet; depth, 8 feet; working depth, 40 feet; rock cutter, 20 tons; return tubular boiler, working pressure, 100 pounds; hoisting winch, with double cylinders; manoeuvring winch, with six independent, reversible wire rope drums, double cylinders; head and stern line winch; steel construction.

Built by Lobnitz, Scotland, 1912.

*No. 1.*—Type, stone lifter. Length over all, 100 feet; beam over all, 35 feet; draught, 5 feet 2 inches; greatest working depth, 40 feet; steel construction; capacity of grips, 50 tons.

Purchased from John Inglis Company, Toronto, Ont., 1907.

ONTARIO AND QUEBEC.

*No. 101—No. 1.*—Type, dipper dredge, ¾ cubic yard capacity. Length over all, 67 feet; beam over all, 26 feet; draught, when towing, 4 feet; working depths, from 6 to 15 feet; constructed of wood; one engine; locomotive boiler, pressure allowed, 125 pounds; average daily dredging capacity, 250 cubic yards; burns about ¾ ton of coal per day of 10 hours.

Built by Government at St. Louis de Gonzague, 1905.

*No. 102—No. 2.*—Type, dipper dredge, 1 cubic yard capacity. Length over all, 60 feet; beam over all, 22 feet; draught, when towing, 2 feet; working depths, from 5 to 16 feet; constructed of wood; 2 engines; locomotive boiler, pressure allowed, 125 pounds; average daily dredging capacity, 300 cubic yards; burns about 1¼ tons of coal per day of 10 hours.

Built by Government, Ottawa shipyard, 1906.

*No. 103—No. 3.*—Type, dipper dredge, 1 cubic yard capacity. Length over all, 60 feet; beam over all, 22 feet; draught, when towing 2 feet; working depths, from 5 to 16 feet; constructed of wood; 2 engines; locomotive boiler, pressure allowed, 125 pounds; average daily dredging capacity, 450 cubic yards; burns about 1¼ tons of coal per day of 10 hours.

Built by Government, Ottawa shipyard, 1909.

*No. 105—No. 5.*—Type, dipper dredge, 3½ cubic yards capacity. Length over all, 85 feet; beam over all, 29 feet; draught, when towing, 6 feet; working depths, from 9 to 27 feet; constructed of wood; 2 engines; tubular boiler, pressure allowed 85 pounds; average daily dredging capacity, 500 cubic yards; burns about 1¼ tons of coal per day of 10 hours.

Purchased from Dominion Dredging Company, 1910.

*No. 106—No. 6.*—Type, clam and orange-peel bucket dredge, 1½ cubic yards capacity. Length over all, 50 feet; beam over all, 24 feet; draught, when towing, 4 feet 6 inches; working depth, 4 feet 6 inches to any depth; constructed of wood; 2 engines; upright boiler, pressure allowed, 100 pounds; average daily dredging capacity, 300 cubic yards; burns about 1 ton of coal per day of 10 hours.

Built by Government, 1911.

*No. 107—Challenge.*—Type, dipper dredge, 2 cubic yards capacity. Length over all, 65 feet; beam over all, 25 feet; draught, when towing, 4 feet; working depths, from 7 feet 6 inches to 20 feet; constructed of wood; one engine; marine boiler, pressure allowed, 90 pounds; average daily dredging capacity, 500 cubic yards; burns about 1½ tons per day of 10 hours.

Built by Government at Collingwood, Ont., 1885.

*No. 108—Deschênes.*—Type, dipper dredge, 1 cubic yard capacity. Length over all, 50 feet; beam over all, 20 feet; draught, when towing, 2 feet; working depths, from 4 to 15 feet; constructed of wood; one engine; return tubular boiler, pressure allowed, 100 pounds; average daily dredging capacity, 250 cubic yards; burns about 1¼ tons of coal per day of 10 hours.

Purchased from G. C. Hurdman, 1909.

*No. 109—Industry.*—Type, dipper dredge, one 4 cubic yard and one 10 cubic yard dipper, used according to hardness of material. Length over all, 133 feet 4 inches; beam over all, 44 feet; draught, when towing, 9 feet; working depths, from 14 to 28 feet; constructed of wood; 8 engines; Scotch marine boiler, pressure allowed, 125 pounds; average daily dredging capacity, 3,000 cubic yards; burns about 3½ tons of coal per day of 10 hours.

Purchased from St. Lawrence Power Co., G. K. Philips, 1908.

*No. 110—International.*—Type, dipper dredge, 5 cubic yards capacity. Length over all, 110 feet; beam over all, 42 feet; draught, when towing, 6 feet; working depths, from 10 to 58 feet; constructed of wood; one engine, compound $\frac{12-24}{14}$; marine boiler, pressure allowed, 12 pounds; average daily dredging capacity, 1,250 cubic yards; burns about 2 tons of coal per day of 10 hours.

Purchased from M. Conley, 1903.

*No. 111—Lake St. John.*—Type, dipper dredge, 1 cubic yard capacity. Length over all, 75 feet; beam over all, 27 feet; draught, when towing, 3 feet; working depths, from 6 to 18 feet; constructed of wood; 2 engines; locomotive boiler, pressure allowed, 100 pounds; average daily dredging capacity, 200 cubic yards; burns about 2 cords of wood per day of 10 hours.

Purchased from Beatty & Sons, 1898.

*No. 112—Mattawa.*—Type, dipper dredge, 2⅛ cubic yards capacity. Length over all, 75 feet 6 inches; beam over all, 25 feet; draught, when towing, 5 feet; working depths, from 12 to 20 feet; constructed of wood; single engine, 12½ by 15; Fitzgibbon boiler, pressure allowed, 125 pounds; average daily dredging capacity, 850 cubic yards; burns about 1 ton of coal per day of 10 hours.

Built by Government at Sturgeon Falls, Ont., 1905.

*No. 113.—Nipissing.*—Type, dipper dredge, 2¼ cubic yards capacity. Length over all, 65 feet; beam over all, 25 feet; draught, when towing, 4 feet; working depths, from 8 to 20 feet; constructed of wood; one engine; marine boiler, pressure allowed, 100 pounds; average daily dredging capacity, 575 cubic yards; burns about 1½ tons of coal per day of 10 hours.

Built by Government, Ottawa shipyard, 1889.

*No. 114—Ontario.*—Type, dipper dredge, 3 cubic yards capacity. Length over all, 72 feet; beam over all, 25 feet; draught, when towing, 4 feet; working depths, from 10 to 23 feet; constructed of wood; 2 engines; locomotive boiler, pressure allowed, 80 pounds; average daily dredging capacity, 550 cubic yards; burns about 1 ton of coal per day of 10 hours.

Built by Government, Ottawa shipyard, 1900.

*No. 115—Ottawa.*—Type, dipper dredge, one 3 and one 5 cubic yards capacity dippers. Length over all, 97 feet 8 inches; beam over all, 43 feet 1 inch; draught, when towing, 6 feet; working depths, from 15 to 36 feet; constructed of wood; 4 engines; Scotch marine boiler, pressure allowed, 120 pounds; average daily dredging capacity, 850 cubic yards; burns about 2 tons of coal per day of 10 hours.

Built by Government, Ottawa shipyard, 1908.

*No. 116—Progress.*—Type, dipper dredge, 3 cubic yards capacity. Length over all, 94 feet; beam over all, 34 feet; draught, when towing, 7 feet; working depths, from 19 to 30 feet; steel and wood construction; 2 engines; locomotive boiler, pressure

allowed, 95 pounds; average daily dredging capacity, 1,000 cubic yards; burns about 2 tons of coal per day of 10 hours.

Built by Government, Sorel, Que., 1902.

*No. 117—Quebec.*—Type, dipper dredge, one 5 cubic yard and one 8 cubic yard dipper, used according to hardness of material. Length over all, 106 feet 9 inches; beam over all, 36 feet 8 inches; draught, when towing, 6 feet 5 inches; working depths, from 16 to 42 feet; constructed of steel; 6 engines; marine boiler, pressure allowed, 145 pounds; average daily dredging capacity, 2,700 cubic yards; burns about 3 tons of coal per day of 10 hours.

Purchased from Polson Iron Works, Toronto, 1908.

*No. 118—Queen.*—Type, dipper dredge, 1½ cubic yards capacity. Length over all, 66 feet; beam over all, 28 feet; draught, when towing, 3 feet 6 inches; working depths, from 7 to 20 feet; constructed of wood; single engine, 8 inches by 16 inches; marine boiler, pressure allowed, 105 pounds; average daily dredging capacity, 400 cubic yards; burns about 1¼ tons of coal per day of 10 hours.

Built by Government at Timiskaming, 1902.

*No. 119—Richelieu.*—Type, dipper dredge, 1½ cubic yards capacity. Length over all, 70 feet; beam over all, 22 feet; draught, when towing, 5 feet; working depths, from 7 to 16 feet; constructed of wood; one engine; Scotch tubular boiler, pressure allowed, 135 pounds; average daily dredging capacity, 400 cubic yards; burns about 1 ton of coal per day of 10 hours.

Built by Government, Ottawa shipyard, 1903.

*No. 120—Sir Richard.*—Type, dipper dredge, 3½ cubic yards capacity. Length over all, 87 feet; beam over all, 33 feet 9 inches; draught, when towing, 4 feet 6 inches; working depths, from 9 to 20 feet; constructed of wood; 2 engines; locomotive boiler, pressure allowed, 95 pounds; average daily dredging capacity, 600 cubic yards; burns about 1½ tons of coal per day of 10 hours.

Built by Government, Ottawa shipyard, 1901.

*No. 121—St. Louis.*—Type, dipper dredge, ¾ cubic yard capacity. Length over all, 60 feet; beam over all, 22 feet; draught, when towing, 3 feet; working depths, from 5 to 16 feet; constructed of wood; 2 engines; locomotive boiler, pressure allowed, 125 pounds; average daily dredging capacity, 325 cubic yards; burns about 1¼ tons of coal per day of 10 hours.

Built by Government, Ottawa shipyard, 1907.

*No. 122—St. Maurice.*—Type, dipper dredge, ¾ cubic yard capacity. Length over all, 70 feet; beam over all, 23 feet 8 inches; draught, when towing, 3 feet 4 inches; working depths, from 6 to 15 feet; constructed of wood; 2 engines; locomotive boiler, pressure allowed, 100 pounds; average daily dredging capacity, 300 cubic yards; burns about 1¼ tons of coal per day of 10 hours.

Purchased from Beatty & Sons, Welland, Ont., 1899.

*No. 123.*—Type, dipper dredge, 3½ cubic yards capacity. Length over all, 90 feet; beam, 34 feet; depth over all, bow, 9 feet 6 inches; depth over all, stern, 8 feet 6 inches; constructed of wood; Scotch marine boiler, 8 feet 6 inches diameter, 9 feet 10 inches long, working pressure, 125 pounds; main engines, 12 inches by 14 inches.

Built by Government, Ottawa shipyard, 1913.

*No. 2.*—Type, stone lifter. Capacity of grips, 10 tons; length over all, 45 feet; beam over all, 25 feet; draught, 2 feet; working depths, from 3 to 16 feet; wood construction; 2 engines; upright boiler, pressure allowed, 90 pounds; burns 1 ton of coal per working day of 10 hours.

Built by Government, Ottawa shipyard, 1898.

MANITOBA.

*No. 201—Assiniboine.*—Type, hydraulic dredge. Length over all, 115 feet; beam over all, 33 feet; draught, when towing, 3 feet 10 inches; working depths, from 4 feet 6 inches to 12 feet; constructed of wood; 4 engines; 2 Scotch boilers, pressure allowed, 150 pounds; average daily dredging capacity, 725 cubic yards; burns about 2¼ tons of coal per day of 10 hours.

Purchased from Polson Iron Works, Toronto, Ont., 1906.

*No. 202—Crane.*—Type, orange-peel bucket, 1½ cubic yards capacity. Length over all, 80 feet; beam over all, 33 feet; draught, when towing, 4 feet; working depth, from 4 feet up; constructed of wood; 2 engines; Scotch boiler, pressure allowed, 150 pounds; average daily dredging capacity, 600 cubic yards; burns about 1 ton of coal per working day of 10 hours.

Built by Government, 1911.

*No. 203—Dauphin.*—Type, orange-peel bucket, 1¼ cubic yards capacity. Length over all, 60 feet; beam over all, 32 feet; draught, when towing, 1 foot 10 inches; working depths, from 2 feet 6 inches up; constructed of wood; 1 engine; vertical boiler, pressure allowed, 100 pounds; average daily dredging capacity, 250 cubic yards; burns about 1 cord of wood per day of 10 hours.

Built by Government, 1909.

*No. 204—Red River.*—Type, dipper dredge, 1½ cubic yards capacity. Length over all, 82 feet; beam over all, 34 feet; draught, when towing, 2 feet 6 inches; working depths, from 4 feet 6 inches to 15 feet; constructed of wood; 2 engines; marine boiler, pressure allowed, 130 pounds; average daily dredging capacity, 350 cubic yards; burns about 1 ton of coal per day of 10 hours.

Built by Government, 1911.

*No. 205—Winnipeg.*—Type, dipper dredge, 2 cubic yards capacity. Length over all, 77 feet; beam over all, 37 feet; draught, when towing, 4 feet 6 inches; working depths, from 7 to 20 feet; constructed of wood; 6 engines; marine boiler, pressure allowed, 150 pounds; average daily dredging capacity, 1,000 cubic yards; burns about 1½ tons of coal per day of 10 hours.

Built by Government, 1884.

SASKATCHEWAN AND ALBERTA.

*No. 206—Athabasca.*—Type, orange-peel bucket, ¾ cubic yard capacity. Length over all, 52 feet; beam over all, 24 feet; draught, when towing, 3 feet; working depths, from 3 to 8 feet; constructed of wood; 1 engine; upright boiler, pressure allowed, 125 pounds; average daily dredging capacity, 100 cubic yards; burns about ¾ cord of wood per day of 10 hours.

Built by Government, 1907.

*No. 207—Last Mountain Lake.*—Type, dipper dredge, 1 cubic yard capacity. Length over all, 64 feet; beam over all, 24 feet; draught when towing, 2 feet; working depths, from 6 to 14 feet; constructed of wood, 2 engines; horizontal boiler, pressure

allowed, 125 pounds; average daily dredging capacity, 600 cubic yards; burns about ½ ton of coal per day of 10 hours.

Partly purchased from Burns and Waters, Ottawa, Ont., and partly built by Government, 1908.

*Hawke.*—Type, scow, with hand derrick. Capacity of grips, 1 ton; length over all, 48 feet; beam over all, 16 feet; draught, 1 foot; working depths, from 1 to 6 feet; constructed of wood.

Purchased from provincial Government, 1903.

BRITISH COLUMBIA.

*No. 301—Ajax.*—Type, dipper dredge, one 3 cubic yard and one 5 cubic yard bucket. Length over all, 110 feet 5 inches; beam over all, 38 feet; draught, with spuds, 9 feet; working depths, from 18 to 40 feet; constructed of steel; 10 engines; Scotch marine boiler, pressure allowed, 150 pounds; average daily dredging capacity, 700 cubic yards; burns about 1½ tons of coal per day of 9 hours.

Purchased from Polson Iron Works, Toronto, Ont., 1908, and erected by same firm at New Westminster, B.C.

*No 302—Bittern.*—Type, orange-peel bucket dredge, 1 cubic yard. Length over all, 70 feet; beam over all, 28 feet; can work to any depth; average daily dredging capacity, 300 cubic yards.

*No. 303—Fruhling.*—Type, scraper suction dredge, self-propelled by twin screws. Length over all, 187 feet; beam over all, 34 feet 6 inches; draught, loaded, 14 feet 6 inches; working depths, from 16 to 45 feet; constructed of steel; 19 engines; 2 Scotch marine boilers, pressure allowed, 130 pounds; average daily dredging capacity, 5,000 cubic yards; burns about 8 tons of coal per day.

Purchased from S. Schichau, Hamburg, Germany, 1909.

*No. 304—Heron.*—Type, orange-peel bucket, ½ cubic yard capacity. Length over all, 50 feet; beam over all, 18 feet 8 inches; constructed of wood; 2 single engines, 6½ inches by 10 inches; vertical boiler; average daily dredging capacity, 125 cubic yards; burns about ½ ton of coal per day of 9 hours.

Built at Penticton, B.C., in 1908.

*No. 305—King Edward.*—Type, 20-inch agitator suction dredge, self-propelled. Length over all, 125 feet; beam over all, 32 feet; draught, 5 feet; working depths, from 6 to 45 feet; constructed of steel and wood; 10 engines; 2 water tube boilers, pressure allowed, 177 pounds; average daily dredging capacity, 4,500 cubic yards; burns about 8 tons of coal per day of 9 hours.

Purchased from Polson Iron Works, Toronto, 1901, and erected by the same firm at New Westminster, B.C.

*No. 306—Mastodon.*—Type, elevator dredge. Length over all, 206 feet; beam over all, 36 feet 6 inches; working depths, from 0 to 50 feet; average daily dredging capacity, 5,000 cubic yards.

*No. 307—Mudlark.*—Type, dipper dredge, 2½ cubic yards capacity. Length over all, 90 feet 2 inches; beam over all, 30 feet 4 inches; draught, with spuds, 5 feet 6 inches; working depths, from 13 to 40 feet; constructed of wood; 5 engines; marine boiler, pressure allowed, 85 pounds; average daily dredging capacity, 650 cubic yards; burns about 1½ tons of coal per day of 9 hours.

Purchased from R. P. Rithet & Company, Victoria, B.C., 1893.

*No. 308—Nakusp.*—Orange-peel bucket dredge, 1 cubic yard capacity. Length over all, 80 feet 8 inches; beam over all, 28 feet 2 inches; draught, with spuds, 32 inches; constructed of wood; 2 single engines 7 inches by 9 inches; locomotive boiler; average daily dredging capacity, 500 cubic yards; burns about $\frac{3}{5}$ ton of coal per day of 9 hours. Changed from a $\frac{3}{4}$ yard dipper dredge by Government in 1908.

Purchased from Polson Iron Works, Toronto, Ont., 1902.

*No. 309—Pelican.*—Type, orange-peel bucket dredge, $\frac{3}{4}$ cubic yard capacity. Length over all, 58 feet; beam over all, 26 feet 8 inches; constructed of wood; 2 engines $5\frac{1}{2}$ inches by 8 inches; vertical boiler; average daily dredging capacity, 275 cubic yards; burns about $\frac{1}{2}$ ton of coal per day of 9 hours.

Built by Government at Kamloops, B.C., 1907.

*Cygnet* (Snag boat).—Type, stern-wheel river steamboat. Steam winch on forward deck, built of wood; length over all, 118 feet 6 inches; beam over all, 27 feet; draught, 3 feet 6 inches; main engines, 2 sets 12 by 60; hoisting winch; burns about $1\frac{1}{4}$ tons of coal per day.

Purchased from the Victoria Machinery Depot Co., Victoria, 1908.

*Samson* (Snag boat).—Type, stern-wheel river steamboat. Steam steering gear; steam winch on forward deck; built of wood; length over all, 133 feet 9 inches; beam over all, 30 feet; draught, 4 feet; two sets of propelling engines 14 by 60; hoisting winch; double cylinder 6 by 8 engine; gunboat type boiler; burns about $1\frac{1}{2}$ tons of coal per day.

Purchased from Turpel & Sons, Victoria, B.C., 1905.

*No. 1—Rock breaker.*—Lobnitz rock breaker. Length, 100 feet; beam moulded, 36 feet; depth, 8 feet; working depth, 40 feet; rock cutter, 20 tons; return tubular boiler, working pressure 100 pounds; hoisting winch, with double cylinders; manoeuvring winch with six independent, reversible wire rope drums, double cylinders; head and stern line winch; steel construction.

Built by Lobnitz, Scotland, 1912.

## TUGS.

### MARITIME PROVINCES.

*Canso.*—Steel construction; length over all, 97 feet; beam over all, 23 feet 4 inches; draught, including keel, 9 feet 6 inches; triple expansion engine $\frac{12\text{-}19\text{-}30}{20}$ return tubular boiler, pressure allowed, 180 pounds; burns about 4 tons of coal per day of 10 hours.

Purchased from the New Burrill-Johnston Iron Company, Yarmouth, N.S., 1910.

*Courtenay.*—Wood construction; length over all, 75 feet; beam over all; 21 feet; draught, including keel, 10 feet; non-condensing engine, 24 by 24; Scotch boiler, pressure allowed, 80 pounds; burns about $1\frac{1}{2}$ tons of coal per day of 10 hours.

Purchased from Tapley Bros., St. John, N.B., 1908.

*Fredericton.*—Hull: length over all, 80 feet; length over stem and stern posts, 71 feet; beam moulded, 20 feet; depth moulded, 10 feet. Engine: surface condensing fore and aft compound engine, 12 inches and 26 inches diameter by 18 inches stroke. Boiler: Scotch marine, 10 feet diameter by 11 feet long by 145 pounds working pressure.

Built by Polson Iron Works, Toronto, 1913.

*Helena.*—Steel construction; length over all, 115 feet; beam over all, 23 feet; draught, including keel, 12 feet 3 inches; triple expansion engine $\frac{15\text{–}25\text{–}41}{25}$; Scotch boiler, pressure allowed, 180 pounds; burns about 4 tons of coal per day of 10 hours.
Purchased from Collingwood Shipbuilding Company, 1907.

*Lisgar.*—Steel construction; length over all, 97 feet; beam over all, 22 feet; draught, including keel, 9 feet 6 inches; triple expansion engine $\frac{12\text{–}19\text{–}30}{20}$; marine boiler; pressure allowed, 180 pounds; burns about 2 tons of coal per day of 10 hours.
Purchased from La Cie Pontbriand, Sorel, Que., 1909.

*Rona.*—Wood construction; length over all, 85 feet; beam over all, 20 feet; draught, including keel, 8 feet; compound engine $\frac{10\text{–}20}{16\text{–}\frac{2}{3}}$; upright boiler, pressure allowed, 130 pounds; burns about one ton of coal per day of 10 hours.
Purchased from J. W. Hatt, Liverpool, N.S., 1903.

*Sogenada.*—Steel construction; length over all, 75 feet 5 inches; beam over all, 15 feet 7 inches; fore and aft compound condensing engine $\frac{14\text{–}30}{21}$; Scotch boiler (10 feet 3 inches by 9 inches), pressure allowed, 140 pounds.
Purchased from Canadian General Development Company, July 26, 1912.

*Alva.*—Wood construction; length over all, 50 feet; beam over all, 12 feet 6 inches; draught, including keel, 5 feet 6 inches; compound engine $\frac{9\text{–}18}{12}$; Fitzgibbon boiler, pressure allowed, 110 pounds; burns about 1 ton of coal per day of 10 hours.
Purchased from Rev. Father Cousineau, 1911.

*Annette.*—Wood construction; length over all, 62 feet; beam over all, 13 feet; draught, including keel, 3 feet; compound engine $\frac{5 \times 10}{8}$; upright boiler, pressure allowed, 135 pounds; burns about 2½ tons of coal per day of 10 hours.
Built by Government, Sorel, Que., 1901.

*Aylmer.*—Composite construction, twin screw; length over all, 45 feet 4 inches; beam over all, 11 feet 6 inches; draught, including keel, 3 feet; 2 engines, 6 by 7 each; Fitzgibbon boiler, pressure allowed, 130 pounds; burns about 1 ton of coal per day of 10 hours.
Purchased from Polson Iron Works, Toronto, 1910.

*Blanche.*—Wood construction; length over all, 55 feet; beam over all, 11 feet; draught, including keel, 5 feet; one engine, 10 by 10; Fitzgibbon boiler, pressure allowed, 125 pounds; burns about ¾ ton of coal per day of 10 hours..
Purchased from Captain H. Bonenfant about 1903.

*Catherine C.*—Wood construction; length over all, 70 feet; beam over all, 14 feet; draught, including keel, 6 feet 6 inches; single engine, 15 by 15; Fitzgibbon boiler, pressure allowed, 110 pounds; burns about 2½ tons of coal per day of 10 hours.
Purchased from H. N. Cockburn, 8 June, 1908.

*Cliffside.*—Wood construction; length over all, 70 feet; beam over all, 14 feet; draught, including keel, 6 feet 6 inches; single engine, 15 by 15; Fitzgibbon boiler,

pressure allowed, 110 pounds; burns about 2½ tons of coal per day of 10 hours.

Purchased from Ottawa Forwarding Company, Ottawa, 1910.

*Daisy.*—Wood construction; length over all, 45 feet; beam over all, 11 feet; draught, including keel, 4 feet 6 inches; single engine, 9 by 10; Fitzgibbon boiler, pressure allowed, 110 pounds; burns about 1 ton of coal per day of 10 hours.

Probably built by Government, about 25 years ago.

*Delisle.*—Wood construction; length over all, 71 feet; beam over all, 15 feet; draught, including keel, 8 feet; single engine, 18 by 20; marine boiler, pressure allowed, 125 pounds; burns about 2½ tons of coal per day of 10 hours.

Probably built by Government at Sorel, about 25 years ago.

*Dora.*—Wood construction; length over all, 60 feet; beam over all, 12 feet; draught, including keel, 6 feet; single engine, 10 by 12; marine boiler, pressure allowed, 120 pounds; burns about 2 tons of coal per day of 10 hours.

Probably purchased from John Lumsden, about 1903.

*Eileen.*—Wood construction; length over all, 45 feet; beam over all, 13 feet 6 inches; draught, including keel, 5 feet; single engine, 12 by 12; marine boiler, pressure allowed, 130 pounds; burns about 1 ton of coal per day of 10 hours.

Purchased from W. H. Kelly Lumber Company, Buckingham, 1908.

*Fashion.*—Wood construction; length over all, 60 feet 8 inches; beam over all, 16 feet 6 inches; draught, including keel, 7 feet 6 inches; compound engine, $\frac{14-24}{13}$; Fitzgibbon boiler, pressure allowed, 125 pounds; burns about 2½ tons of coal per day of 10 hours.

Purchased from Dominion Dredging Company, Ottawa, 1910.

*Hercules.*—Steel construction; length over all, 105 feet; beam over all, 23 feet; draught, including keel, 10 feet 6 inches; triple expansion engine, $\frac{13\frac{1}{2}-22-36}{21}$; Scotch marine boiler, pressure allowed, 175 pounds; burns about 3½ tons of coal per day of 10 hours.

Purchased from Polson Iron Works, Toronto, 1906.

*Lion.*—Wood construction; length over all, 30 feet; beam over all, 8 feet; draught, including keel, 3 feet 6 inches; compound engine, $\frac{5-9}{6}$; upright boiler, pressure allowed, 150 pounds; burns about ½ ton of coal per day of 10 hours.

Transferred from Clerk of Works of Quebec, to this branch, about 1906.

*Maggie K.*—Wood construction; length over all, 45 feet; beam over all, 13 feet 6 inches; draught, including keel, 5 feet; single engine, 12 by 12; marine boiler, pressure allowed, 130 pounds; burns about 1 ton of coal per day of 10 hours.

Purchased from W. H. Kelly Lumber Company, Buckingham, 1913.

*Marie Louise.*—Wood construction; length over all, 55 feet; beam over all, 15 feet; draught, including keel, 4½ feet; single engine, 8 by 9; marine boiler, pressure allowed 80 pounds; burns about 2 cords of wood per day of 10 hours.

Built by Government, 1899.

*Mina G.*—Wood construction; length over all, 45 feet; beam over all, 13 feet 6 inches; draught, including keel, 5 feet; single engine, 12 by 12; marine boiler, pressure allowed, 130 pounds; burns about 1 ton of coal per day of 10 hours.

Purchased from W. H. Kelly Lumber Company, Buckingham, 1910.

*Monitor.*—Steel construction; length over all, 78 feet; beam over all, 18 feet; draught, including keel, 8 feet 9 inches; 3 cylinders, $\frac{12\text{–}12\text{–}12}{20}$ low pressure engine; Scotch marine boiler, pressure allowed, 140 pounds; burns about 3 tons of coal per day of 10 hours.

Purchased from J. and R. Weir, Montreal, 1899.

*Ottawa.*—Wood construction; length over all, 59 feet; beam over all, 14 feet; draught, including keel, 6 feet 5 inches; compound engine, $\frac{11\text{–}20}{18}$; Scotch tubular boiler, pressure allowed, 130 pounds; burns about 1 ton of coal per day of 10 hours.

Rebuilt in oak, Ottawa shipyard, 1909.

*Peel.*—Steel construction; length over all, 97 feet 6 inches; beam over all, 22 feet; draught, including keel, 9 feet 6 inches; triple expansion engine $\frac{12\text{–}19\text{–}30}{20}$; Scotch marine boiler, pressure allowed, 180 pounds; burns about 2 tons of coal per day of 10 hours.

Purchased from La Cie Pontbriand, Sorel, Que., 1909.

*Sir John.*—Wood construction; length over all, 81 feet 6 inches; beam over all, 17 feet 3 inches; draught, including keel, 7 feet 6 inches; single engine, 16 by 20; Fitzgibbon boiler, pressure allowed, 130 pounds; burns about 3 tons of coal per day of 10 hours.

Probably built by Government at Sorel about 25 years ago.

*Speedy.*—Steel construction; length over all, 125 feet; beam over all, 20 feet; draught, including keel, 11 feet; triple expansion engine $\frac{10\text{–}16\text{–}26}{18}$; Scotch marine boiler, pressure allowed, 200 pounds; burns about 4½ tons of soft coal per day of 10 hours.

Purchased from Gardner and Cox, New York, 1905.

*Storm King.*—Wood construction; length over all, 92 feet; beam over all, 19 feet 6 inches; draught, including keel, 12 feet; compound engine, $\frac{16\text{–}32}{24}$; marine boiler, pressure allowed, 110 pounds; burns about 2 tons of coal per day of 10 hours.

Purchased from M. Conley, 1903.

*St. Paul.*—Wood construction; length over all, 72 feet; beam over all, 16 feet; draught, including keel, 8 feet; compound engine, $\frac{12\text{–}24}{20}$; marine boiler, pressure allowed, 125 pounds; burns about 3¼ tons of coal per day of 10 hours.

Probably built by Government, at Sorel, about 25 years ago.

*Archie Stewart.*—Wood construction; length over all, 81 feet, 5 inches; beam over all, 18 feet 8 inches; draught, 6 feet 6 inches; simple non-condensing engine, 20 by 18; Scotch boiler, pressure allowed, 125 pounds.

Purchased from Ottawa Transportation Company, July 25th, 1912.

*Trudeau.*—Wood construction; length over all, 80 feet; beam over all, 18 feet 6 inches, draught, including keel, 7 feet 10 inches; single engine, 16 by 18; marine boiler, pressure allowed, 120 pounds; burns about 2 tons of coal per day of 10 hours.

Probably built by Government, at Sorel, about 25 years ago.

*Witherbee.*—Steel construction; length over all, 115 feet; beam over all, 21 feet; draught, including keel, 10 feet; compound engine, $\frac{18-35}{24}$; tubular boiler, pressure allowed, 90 pounds; burns about 2 tons of coal per day of 10 hours.

Purchased from Hon. J. C. Kaine, Quebec, 1910.

MANITOBA.

*Carberry.*—Wood construction; length over all, 69 feet 8 inches; beam over all, 16 feet 5 inches; draught, including keel, 5 feet; 2 single engines, each 10 by 10; marine boiler, pressure allowed, 100 pounds; burns about 2 cords of wood per day of 10 hours.

Purchased from Lake Manitoba Quarry and Transportation Co., 1905.

*Friday.*—Wood construction; length over all, 60 feet; beam over all, 15 feet; draught, including keel, 6 feet; high pressure engine 12 by 12; Scotch boiler, pressure allowed 150 pounds; burns about 1 ton of coal per day of 10 hours.

Built by Government, 1911.

*Lisgar.*—Wood construction; length over all, 44 feet; beam over all, 13 feet 7 inches; draught, including keel, 5 feet; single engine, 9 by 9; marine boiler, pressure allowed, 150 pounds; burns about $\frac{3}{4}$ ton of coal per day of 10 hours.

Built by Government, Selkirk, Man., 1910.

*Sir Hector.*—Wood construction; length over all, 72 feet; beam over all, 16 feet; draught, including keel, 9 feet; single engine, 16 by 20; marine boiler, pressure allowed, 150 pounds; burns about $2\frac{1}{2}$ tons of coal per day of 10 hours.

Purchased from R. T. Morrel, Collingwood, Ont., 1908.

*Victoria.*—Wood construction; length over all, 68 feet; beam over all, 14 feet 6 inches; draught, including keel, 7 feet; compound engine, $\frac{8-16}{12}$; Fitzgibbon boiler, pressure allowed, 155 pounds; burns about 1 ton of coal per day of 10 hours.

Built by Government, Selkirk, Man., 1905.

ALBERTA AND SASKATCHEWAN.

*Ruby.*—Wood construction; length over all, 45 feet; beam over all, 12 feet; draught, including keel, 3 feet 6 inches; single engine, 6 by 7; Fitzgibbon boiler, pressure allowed, 140 pounds; burns about $\frac{3}{4}$ ton of coal per day of 10 hours.

Purchased from Polson Iron Works, Toronto, Ont., 1908.

BRITISH COLUMBIA.

*Petrel.*—Steel construction; length over all, 93 feet 6 inches; beam over all, 17 feet; draught, 12 feet; compound engine, $\frac{11-24}{16}$; Scotch marine boiler, pressure allowed, 160 pounds; burns about 2 tons of coal per day of 9 hours.

Purchased from Victoria Machinery Depot Co., Victoria, 1906.

*Point Ellice.*—Steel construction; length over all, 91 feet 6 inches; moulded beam, 20 feet; moulded depth, 12 feet 9 inches; fore and aft compound engines, $\frac{16-34}{24}$; propeller, 8 feet 3 inches diameter; Scotch marine boiler, 12 feet 2 inches diameter; 11 feet long; working pressure, 150 pounds.

Built at North Vancouver, B.C., 1912.

*Point Grey.*—Steel construction; length over all, 100 feet; moulded beam, 22 feet; moulded depth, 15 feet 2½ inches; fore and aft compound engines, $\frac{17-40}{27}$; propeller, 10 feet diameter; Scotch marine boiler, 14 feet 2 inches diameter, 12 feet 1½ inches long; working pressure, 150 pounds.

Built at North Vancouver, B.C., 1912.

## DRY DOCKS.

The Dominion Government owns three dry docks and operates two, viz., the Lorne dry dock, at Lévis, province of Quebec; the Kingston dry dock, at Kingston, province of Ontario, and the Esquimalt dry dock, at Esquimalt, near the city of Victoria, in British Columbia.

### LÉVIS.

The only extra work that was done during the fiscal year was the lengthening of the electric posts, which was done at different times last summer by our staff, this work cost $50 only the price of materials used for that work.

All the other work was for maintenance and repairs, docking and undocking vessels as usual.

| | |
|---|---|
| Revenue for 12 months from 1st April, 1912, up to 31st March, 1913 | $29,572 31 |
| Expenses for 12 months from 1st April, 1912, up to 31st March, 1913 | 17,260 26 |
| Balance of surplus for 12 months | $12,312 05 |

### ESQUIMALT GRAVING DOCK.

During the year ending March 31, 1913, eighteen ships were docked for cleaning, painting, and repairing, and the dock was occupied for 83 days. The total revenue collected was $8,957.36.

The staff at the dock were employed, when not docking and undocking ships, in repairing and painting the buildings, renewing and overhauling the machinery, scaling and painting inside of caisson chamber, and other work necessary to keep the dock and grounds in fit condition.

The meeting face of the caisson is getting badly worm-eaten, and it will be necessary, during the coming year, to repair the outside meeting face, as, if a large ship has to be docked, requiring the caisson to be placed on the outer side, the leaks are so much that it requires almost constant pumping to keep the dock dry.

The total expenditure for the year was $15,198.45.

### KINGSTON GRAVING DOCK.

The revenue was $10,000.

On the 1st of May, 1910, the Kingston Shipbuilding Company took possession of the dock under lease, the rental of which, $10,000 per annum, was payable at the end of each year.

## LOCKS AND DAMS.

### RIVIÈRE DU LIÈVRE.

At Poupore, twelve miles above Buckingham, on the Lièvre river, in the county of Labelle, the department completed, in 1892, a lock and dam, to improve navigation to High Falls.

Out of the appropriation of $7,000, voted for training pier below the locks, $3,500 was authorized to be expended towards urgent improvements needed to protect navigation at the upper entrance of the locks; further study of the conditions below the lock was made and plans prepared for a training pier. Two piers, one 10 feet square on top and 20 feet square in the bottom, 30 feet high, and the other 10 feet square on top and 32 feet square in the bottom and 20 feet high, were built. Part of the upper training pier, 94 feet long, 20 feet wide in shape of a triangle, was torn down to the low-water level and the face rebuilt to ease off flood flow, and sheeting of dam was repaired, February 10 to March 31. Owing to uncontrollable circumstances, the work attempted was not fully completed.

Expenditure to March 31, $2,892.30.

#### *Lock.*

Besides maintenance of traffic through the locks at Poupore, placing booms, temporary repairs to valves and procuring of three sets of new valves, etc., some repairs to the lockmaster's quarters were required, consisting in renewing roof and replacing the old glass porch by a less costly verandah, painting, etc.

Maintenance of these works during the year has cost: wages, $1,371.68; materials for repairs, $286.24; telephone, $15; supplies and valves, $421.84; forming a total of $2,094.76.

### MONTREAL RIVER.

#### *Latchford Dam.*

Latchford, district of Nipissing, is a town on the T. & N. O. Ry., located on the Montreal river.

At its last session, Parliament granted $35,000 towards the continuance of construction of a dam at Latchford, and providing for purchase of land to be submerged, for the purpose of improving navigation to Elk lake; a further amount of $15,000 was authorized by Order in Council, January 6th, 1913, to permit carrying on operations through the winter. A contract was originally entered into with Messrs. Sinclair and Campbell for a concrete structure, at unit prices. Work which started in April, 1910, did not progress rapidly owing to uncontrollable circumstances.

In the spring of 1911, the cofferdams were damaged by jamming of sawlogs, etc., after concrete work had been discontinued. The original contract having been transferred to Lowry and Goring, Order in Council, July 19th, 1911, the latter resumed work in August and undertook to rebuild the principal cofferdam. Work was again stopped November 29, after several unsuccessful attempts had been made to unwater the cofferdam. This second large cofferdam was destroyed during the spring freshet of 1912, and the department took the work out of the contractors' hands, July 27.

The job was opened up in August, and the plant overhauled, shifted and installed early in September. The method adopted for doing the work, consisted of concentrating operations on the northwest side of the river and unwatering for concrete in three continuous cofferdams, after removing cyclopean boulders, old cofferdam debris, etc., as part of the permanent excavation for the concrete structure, inflow and outflow of sluiceways, etc. The three-point orange-peel bucket, operated by travelling derrick over the piers, has been found satisfactory. The first section of cofferdam

was built in October, staunched and unwatered by the middle of November. Dry excavation inside of cofferdam, which held the water under a head of 11 feet, with very little leakage, was then proceeded with. Concrete work for two sluiceways and piers started December 14, completed January 10. Here again the travelling derrick was used for handling material to advantage.

After removing the pier forms, the first cofferdam and deepening the river bed with explosives, for inflow and outflow, the second cofferdam was proceeded with at the end of January and closed February 28. This dam was sheeted by March 5 and first unwatered March 8. It was fully staunched and banked on the 24th and excavation inside reached bed rock on the 29th. Concrete for two more sluiceways and piers started March 31.

A cribwork pier was built on downstream side, in connection with dump of waste material from excavation; this will act at the same time as a training dyke for logging operations. A cribwork pier was built above the dam on the northwest side, and by the end of the fiscal year, 200 lineal feet of 3-ply by 2-layer boom and 156 lineal feet of 3-ply boom had been built for logging operations. There was then on hand, besides a very complete plant, considerable materials for balance of work.

To provide for better clearance in high water, the piers and abutments are being built 20 feet high above sluiceways; three piers for log pass are being extended downstream; material on hand for several cribs and all booms required for handling logs through the dam.

Expenditure on construction and land damages to March 31, $50,003.83.

### YAMASKA LOCK AND DAM.

The lock and dam, built under contract about 1882, are situated about two miles below the village of St. Michel d'Yamaska where the Quebec, Montreal and Southern Railway crosses the Yamaska river, and where the Government built a wharf in 1909.

The Yamaska river rises in the county of Brome, and after a course of over 90 miles falls into the St. Lawrence at the head of lake St. Peter. The lock and dam are about 4½ miles from the mouth of the river. By the construction of these works, and dredging through the shoals below and above the lock, the river was rendered navigable for vessels, having a maximum draft of 4 feet to Belle Point or Rapide de la Grosse Roche, a distance of 20 miles from the mouth of the river.

The dam consists of a stone-filled crib with plank sheathing on the upper side 502 feet long, with stone-filled close-faced crib abutment at each end. The front and top sheathing of the dam was partly decayed and worn by the ice, and could not hold back the water as it should have done.

At the last session of Parliament, the sum of $4,000 for the repairs and renewals to lock and dam, and the sum of $3,900 for the maintenance of lock and dam were voted for the necessary repairs and maintenance. On April 4, 1912, authority was received to expend these amounts by day labour.

Work for repairs and renewals was commenced on August 6 and carried on until October 31, 1912, and consisted in rebuilding the ice-breaker, on the upper end of the south wing, sheathing and raising by one pier the south wing, reconstructing the north wing and sheathing and flooring same with 3-inch pine planks, sheathing the west wing, refilling with stone a part of the dam and partly sheathing same on the upper side with 3-inch elm planks, resheathing the western abutment with 3-inch pine planks and building a stone-filled crib wing on the lower side of the western abutment to prevent the bank from being washed away by the water.

In the execution of the above works, some 32,197 feet b.m. of pine, 3,726 feet b.m. of elm, 1,598 feet b.m. of hemlock, 5,370 pounds of iron and 102 bags of cement were used.

During the fiscal year 1912-13 expenditure was $3,098.80.

ST. ANDREWS LOCK.

The completion of the highway bridge, at St. Andrews lock and dam, was commenced last year by the letting of the contract for the approaches to the steel service bridge. The contract was let on March 8, 1912, to the Brown Construction Company, Limited, of Winnipeg, Manitoba, for the sum of $71,617.75, the work to be completed within fifteen months. Date of completion, June 8, 1913.

The work commenced on the east side in the latter part of June, with favourable weather, and was completed the last week in August. With the transfer of operations to the west side, the weather changed and an unusually wet season followed. This delayed the work, and, in addition, the contractors failed to push the work as energetically as they should have. The result was the concrete work remained unfinished when the cold weather set in, November 25. With the thermometer reading ten degrees of frost during the working hours, and lower at night, it was necessary to stop mixing concrete. The work was closed down for the winter on December 4.

The work on the east side consisted of the excavation for the handrailing pedestals, 18·7 cubic yards; excavation for the pedestals for the steel work, 390·65 cubic yards; excavation for the retaining wall, 207·56 cubic yards. Total excavation on the east side is 616·91 cubic yards.

Sixty-three piles were driven in the excavation for the retaining wall, of a total length of 1,386 lineal feet.

The concrete work done comprises the following: Thirty-six pedestals for the handrailing, eighteen on each side of the roadway, varying in size from three feet up to fifteen.

The volume of these pedestals is 48·81 cubic yards; twelve pedestals for the steel work with a volume of 121·54 cubic yards, a retaining wall with a volume of 211·01 cubic yards. Total cubic yards of concrete on the east side is 391·36.

The excavation from the pedestals and retaining wall was placed behind the latter to form part of the embankment.

The work on the west side comprises the following: Excavation for seventeen of the handrailing pedestals, 25·43 cubic yards; excavation for four pedestals for the steelwork, 131·45 cubic yards; excavation for the reinforced abutment and retaining wall 3,993·47 cubic yards. Total excavation amounts to 4,150·35 cubic yards.

Concrete work on the west side is as follows: Four pedestals for the steel work, 95·22 cubic yards; the base of the retaining wall, ninety feet in length, and four feet of the batter of the most southerly section of this wall, 398·12 cubic yards; 16,880 pounds of reinforcing steel, making a total of 493·34 cubic yards of concrete on the west side.

Ninety feet of tile drain was laid to the west of the base of the retaining wall, also 37·5 cubic yards of stone filling for drain.

The totals of the work done on both sides of the river are as follows: Excavation, 4,767·26 cubic yards; piling, 1,386 lineal feet; concrete, 874·7 cubic yards; tile drain, 90 feet; stone filling for drain, 37·5 cubic yards; 343,727 pounds of steel have been delivered, and 75 per cent of the bascule lift.

Total expenditure as follows:—

| | |
|---|---|
| Ninety per cent of work performed.. .. .. .. .. .. .. .. | $10,948 45 |
| Fifty per cent of steel work and material delivered.... | 16,689 71 |
| | $27,638 16 |

*Lighting.*

The lighting system at St. Andrews lock and dam was completed; 9 lights were placed along the lock wall, and range lights placed to guide steamers in the channel which has been blasted just below the lower entrance of the lock. A switchboard was

erected in the power-house, and a new panel put in. The lead-covered cable was carried under the lock, and the lock-house completely wired; connection was made with the cables of the Winnipeg Street Railway, and the installation was satisfactory.

The expenditure was $2,120.29.

*Protection.*

The raising of the water to elevation 704·00 in St. Andrews dam, caused the flooding of a portion of road along the west side of the Red river, about one mile south of St. Andrews lock and dam.

It was necessary to raise a section of the road, 500 feet in length, and reconstruct a small bridge. The material for the road was obtained by widening a cut on the northern end of the section. The bank of the river, for a distance of 1,730 feet, was riprapped to prevent further damage. The stone for this work was obtained from the dredges working at the lower entrance of St. Andrews lock. It was loaded on a scow and towed as close as possible to the bank and unloaded by hand. Some 230 cubic yards of earth were used in raising road, and 256 cubic yards of rock in riprapping.

The expenditure was $825.62.

CRAVEN DAM.

Repairs to the old dam were made in the latter part of July, in order to stop a leak which was discovered near the middle of the dam after the water in the Qu'Appelle river had fallen. This leak was stopped and the dam reinforced by placing about 34 cords of stone on its downstream side over a length of about 40 feet. A clay lining, 2 feet thick at the top and sloping 1½ to 1 foot, to the bottom, was placed on the upstream side of the dam and proved to be effective in making it water-tight.

Work was done by day labour. Amount expended, $496.05. Minor repairs were also made, last March, and a leak which began to show near the fish ladder was effectively checked. The dam is now able to withstand any flood which the Qu'Appelle river may carry.

## SLIDES AND BOOMS.

The Dominion Government owns and operates slides and boom works, built to facilitate the passage of square timber, round logs, flatted and dimension timber, etc., on the river Ottawa and tributaries; on the St. Maurice river; the Saguenay river, and at Fenelon Falls and Burleigh Falls on the Trent river.

In the subjoined reports, the superintending engineers of the river works, Messrs. J. C. Scott, F. X. T. Berlinguet and P. E. Amiot, give particulars relative to the construction, improvements and repairs carried out under their supervision on Government slides, booms, piers, dams, streams, buildings, etc., during the fiscal year; the expenditure incurred for staff, maintenance, improvements, etc.; the quantities of the various descriptions of timber that pass through their works, and other information of general interest and utility to lumbermen and the public at large.

REPORT OF THE OTTAWA RIVER WORKS.

(By J. C. SCOTT, Acting Superintending Engineer.)

OTTAWA, May 19, 1913.

The Chief Engineer,
Department of Public Works,
Ottawa.

SIR,—I have the honour to submit herewith the following report on the works under my charge, for the fiscal year ended 31st March, 1913.

OTTAWA RIVER WORKS—ORDINARY REPAIRS—STATIONS ON OTTAWA RIVER.

*North Chaudière Station.*—The upper slide at this station was, for the most part, rebuilt. New cross-sills were laid to form the foundation, and with a view of obtaining better results, the slide was narrowed considerably, the width at the outlet being 6½ feet, and that at the intake, 12 feet. The sides are composed of two courses of 3-inch hemlock plank supported by upright posts set about 5 feet apart, the bottom being laid with solid timber. An iron-sheathed stop-log was made for the bulkhead, the guide booms at entrance to the slide were overhauled and a post supporting the bulkhead, at lower side of stop-log checks, was spliced.

At lower slide, timbers were placed on the sides and bottom, where the old ones were worn out, while the apron at outlet was renewed. A supply of suitable timber was procured and laid up near the slides for future repairs, also for use during season.

*South Chaudière Station.*—The sheeting on the side of entrance bulk-head was patched, the boom fastenings were adjusted and the boats were repaired. Near the foot of the slide, planking in the bottom, which was torn off by the force of the water, was replaced. The storehouses, sheds and workshops at this station were also kept in an efficient state of repair.

TRIBUTARIES OF THE OTTAWA RIVER.

*Gatineau River.*—The repairs to the works at the Government boom, on this stream, consisted in renewing a number of pickets and cap pieces used in connecting the different sections of the boom, repairing the scows and boats, and maintaining in repair the station house, storehouses and other buildings at the reserve.

*Madawaska River.*—At the mouth of this river, one of the main piers supporting the retaining boom was taken down and rebuilt from the water's edge. The pier is 17 feet by 19 feet and 7 feet high above the water. The front of the pier is tapered and covered with 3-inch tamarac plank. Fenders were also placed on the corners of the pier to protect them from ice-shoves.

At the head of Arnprior slide, two piers were rebuilt from the water level. One is 24 feet by 36 feet and 7 feet high, and the other 10 feet square and 5 feet high. Both these piers are used in connection with the guide booms leading to the slide, the smaller one being for a support to the brace boom. The connecting chains in the guide booms were also repaired where defects were found, and several of the cross-pieces on the top of the boom were renewed.

At Chain Rapids, a quantity of plank was hauled to the slide for repairs to the works at this station.

*Coulonge River.*—At Coulonge village, the retaining boom was stretched and a section was added consisting of two sticks, each 24 feet in length, securely bolted together. At High Falls station, two timbers were placed in the guide boom at head slide, and the planking on the top of this boom was renewed for a distance of 27 feet. Two braces, two pickets and two cap pieces were also provided for this boom. The cribwork forming the foundation for the slide was repaired where the timbers were decayed, and the superstructure was raised to grade. Several bents were placed to support the slide, and in order to ensure greater stability, a stay-chain, anchored to the solid rock, was provided. Many of the posts, cross-sills and braces were renewed, and over ten thousand feet b.m. of hardwood plank were placed in the sides of the slide.

*Black River.*—At the pitch, near the outlet of High Falls slide, a portion of the sides was rebuilt. The sides are formed of timber, supported by posts braced at regular intervals. The iron bars in the bottom of slide were taken up where the bearing was uneven, the surfaces were added and the iron was properly seated and

relaid. Defective posts, sheeting and braces were made good, and at several places, where the slide was sinking, the timbers were blocked to prevent further settlement. Six braces were placed on the bulkhead of slide to strengthen this structure. At the retaining boom, a short distance above slide, water-logged timbers were removed and new sticks were substituted. The chains of the boom were also attended to, and two new gap sticks were furnished for the feeding piers. The guide booms at entrance to the slide were treated in a similar manner to that of the retaining boom. A pier, eight feet square and five feet high, was built to hold the guide boom on west side in its proper position.

*Petawawa River.*—At the retaining boom at the mouth of this river, a pier 16 feet square was raised three feet and filled with stone ballast. Nine fenders, eleven feet long, were placed on this pier to protect the corners.

At Third Chute station, two piers supporting the guide boom were raised 2½ feet and filled with stone. One of these piers is 13 feet square and the other 14 feet square. A snubbing post was placed in the former, and two fenders were set on the latter.

At lake Traverse, the bottom of the slide was patched and the booms were strengthened.

At Cedar Lake station, five stop-logs were made for slide and waste gate. The platform over slide and waste gate, 60 feet long and 15 feet wide, was covered with 7-inch pine. Voids in the dam to south of waste gate were filled with stone. At upper end of the guide boom, a pier, 10 feet by 12 feet and 6 feet high, was built, in which was placed a substantial post to which the boom is attached. The guide booms were overhauled, it being found necessary to renew several of the timbers and chains. The bottom of the slide was also attended to and several of the iron bars which had become loose were securely fastened.

The water in the Ottawa river and its tributaries, in the spring of 1912, was a good medium pitch. The maximum height was reached about the end of May, after which it fell somewhat, but, owing to heavy rains during the summer, the water maintained a very fair pitch throughout the whole season and was quite suitable for driving purposes.

Statement of the number of pieces of square timber, saw logs, etc., that passed through the Government slides and works, on the Ottawa river and its tributaries, during the fiscal year ended 31st March, 1913:—

| | Pieces |
|---|---|
| Square timber | None. |
| Sawlogs | 4,360,220 |
| Boom and dimension timber | 31,050 |
| Cedars | 21,638 |
| Railroad ties | 79,797 |
| Fence posts | 10,254 |
| | 4,503,019 |

Also 45,015 cords of pulpwood.

The revenue accrued on the above was $42,922.78.

In submitting the foregoing report,

I have the honour to be, sir,

Your obedient servant,

JOHN C. SCOTT,

*Acting Superintending Engineer, Ottawa River Works.*

STATEMENT showing Expenditure for Repairs to Ottawa River Works, for Fiscal Year ended 31st March, 1913.

| Name of work. | Province. | Electoral District. | Expenditure 1st April, 1912, to 31st October, 1912. | Expenditure 1st November, 1912, to 31st March, 1913. | Expenditure 1st April, 1912, to 31st March, 1913. |
|---|---|---|---|---|---|
| | | | $ cts. | $ cts. | $ cts. |
| Ottawa River— | | | | | |
| North Chaudiere Station. | Quebec... | District of Wright..... | 512 25 | 722 25 | 1,234 50 |
| South " " . | Ontario... | City of Ottawa... ... ... | 26 13 | 116 88 | 143 01 |
| Total..... | | | 538 38 | 839 13 | 1,377 51 |
| Tributaries of Ottawa River | | | | | |
| Gatineau River..... | Quebec... | District of Wright..... | ..... | 88 95 | 88 95 |
| Madawaska River..... | Ontario .. | South Riding County of Renfrew..... | ..... | 596 86 | 596 86 |
| Coulonge " ..... | Quebec .. | County of Pontiac ... ....| 141 25 | 1,409 63 | 1,550 88 |
| Black " ..... | " ... | " " ..... | 1,007 27 | 291 75 | 1,299 02 |
| Petawawa " .... | Ontario. | North Riding County of Renfrew and County of Nipissing..... | 92 12 | 1,160 33 | 1,252 45 |
| Total..... ... | ... ... | ... ... | 1,240 64 | 3,547 52 | 4,788 16 |
| Grand total... | ..... | ..... ..... | ..... ..... ... | | 6,165 67 |

19th May, 1913.

JOS. KENT,
*Accountant.*

ST. MAURICE RIVER WORKS.

(By F. X. T. BERLINGUET, Superintending Engineer.)

TROIS-RIVIÈRES, May 19, 1913.

EUGÈNE D. LAFLEUR, Esq.,
Chief Engineer,
Department of Public Works,
Ottawa.

SIR,—As requested in your circular letter, I have the honour to submit the following report on the St. Maurice river works for the fiscal year ending March 31, 1913:—

The fluctuations of the water level on the St. Maurice river during the time of the floating of the logs, in the commercial season of 1912, have been remarkably good, owing to rises which occurred during the month of June, one at the end of October also one in November, which helped the floating of logs to their destination.

The handling of the booms was entirely done by the steam warping tugs.

When the water was at its lowest pitch, the foundations of 235 piers were examined, also 64,624 lineal feet of booms, and all put in good condition for the next season. The work was continued during the early spring months, in order that everything would be in readiness for the opening of the commercial season of 1913.

These works may be described as follows:—

*Pointe à Trudel Booms.*—On the 40th mile of the St. Maurice river, 1,712 lineal feet of booms, also five mooring piers, were put in good condition for the commercial season.

*Pointe à Madeleine Booms.*—On the 39th mile, 2,288 lineal feet of booms and 13 piers were examined, stone ballast was put in the piers where necessary, and the framing of two new piers were completed to the required height. A number of boom chains were supplied.

*St. Jacques des Piles Booms.*—On the 38th mile from the outlet, 2,167 lineal feet, of five- or six-ply booms, also 9 mooring piers were put in good condition. A number of boom chains were supplied. Stone ballast was put in the piers where necessary, and ordinary repairs were made to boats, scows, station house and fences.

*Ste. Flore Booms.*—On the 34th mile, 1,311 lineal feet of three- and four-ply booms were put in good condition. A number of boom chains were supplied.

*Petites Piles Booms.*—On the 34th mile, one boom is put across the river from east to west above the Cascades, during the low-water season, so as to check the floating of the logs for the sluicing gaps at Grand'Mère.

*Grand'Mère Booms.*—On the 33rd mile, where 803 lineal feet of booms are in use for the assorting of the logs, the Laurentide Company's logs are floated to their private booms. The widths of the booms in use at that section of the river are as follows:

| | | | | |
|---|---|---|---|---|
| 290 | lineal | feet | of 8-ply | booms. |
| 3,622 | " | " | 7 | " |
| 1,522 | " | " | 6 | " |
| 990 | " | " | 5 | " |
| 1,407 | " | " | 4 | " |
| 3,673 | " | " | 3 | " |
| 1,299 | " | " | 2 | " |

*Rapides des Hêtres Booms.*—On the 28th mile, 2,600 lineal feet of two- and three-ply booms were put in good condition. The dam has been lowered, so as not to flood the Laurentide Company's mill at Grand'Mère. Three piers are in use in that section.

*Pointe Marchessault Booms.*—On the 24th and 25th mile, three piers, with booms measuring 1,200 feet in length, are used to close the eastern channel formed by two islands, Paquette and Langevin. The gap between the islands is closed by a boom, measuring 1,600 feet, retained in position by 10 piers. All the piers were raised to the new water line caused by the erection of dams across the Shawenegan falls, by the Shawenegan Water and Power Company.

*Pointe à Bernard Booms.*—On the 23rd and 24th mile, where 8,250 lineal feet of booms are in use, retained in position by 9 piers and 14 jam piers. Here, double assorting gaps are erected for the Belgo Company's logs, which are floated to their private booms.

*Shawenegan Slide Booms.*—On the 2nd mile, a section of the bottom and sides of the slide were repaired by replacing the worn-out timber and planking with new material, the apron was faced with hardwood, and the projecting spikes in the bottom and sides of the slide were countersunk.

*Pointe à Chevalier Booms.*—On the 20th mile at Shawenegan bay, the booms in use measure 5,400 feet in length, retained by 15 mooring and jam piers.

*Ile aux Tourtes Booms.*—On the 18th mile, where the western channel, formed by the island, is closed at its lower end by booms and two piers. The main channel is

closed at the upper end of the island by a guide boom when required. Last year, logs were wintered in the said boom. There are 11,805 lineal feet of one- to seven-ply booms in use in this section of the river.

*Les Grès Booms.*—On the 16th and 17th mile, a guide boom is stretched across the river to float the logs through the western channel; 2,600 feet of booms are in use.

*Pointe à Lambert Booms.*—On the 4th mile, this boom, where 70,000 logs used to be retained, has not been in use for several years.

*Cap aux Corneilles, Eastern Booms.*—On the 3rd mile, 622 lineal feet of 8-ply booms, 445 feet of 7-ply booms, 1,462 feet of 6-ply booms, 678 feet of 5-ply booms, 1,295 feet of 4-ply booms, 27 feet of 3-ply booms, 2,130 feet of 2-ply booms, also 23 mooring piers were examined and put in good condition. Chains were supplied and stone ballast was put in the piers where necessary. The area of the space, formed by said booms and the eastern shore, can retain 200,000 logs.

*Cap aux Corneilles, Western Booms—Three Rivers Sluicing—Caps.*—On the 2nd mile, 151 lineal feet of 8-ply booms, 1,121 feet of 7-ply booms, 1,544 feet of 6-ply booms, 2,093 feet of 5-ply booms, 4,443 feet of 4-ply booms and 53 feet of 3-ply booms. In all, 9,405 lineal feet of booms were used during the fiscal year of 1912.

*Eastern Booms.*—East of Ile St. Christophe, at the outlet, where there are in use, 283 lineal feet of 7-ply booms, 267 feet of 6-ply booms, 695 feet of 5-ply booms, 589 feet of 4-ply booms, 1,731 feet of 3-ply booms, 385 feet of 2-ply booms, also 287 feet of single booms; in all, 4,197 lineal feet of booms, where 14 piers are in use.

*Ile St. Quentin Booms.*—At the outlet, in the middle channel formed by the two islands, St. Quentin and St. Christophe, where 5,947 lineal feet of booms were in use in 1912, described as follows: 813 lineal feet of 7-ply booms, 785 feet of 6-ply booms, 602 feet of 5-ply booms, 2,025 feet of 4-ply booms, 882 feet of 3-ply booms, and 840 feet of 2-ply booms, retained in position by 24 piers. The eastern section of the said retaining booms has been dredged to 4 feet at low water.

The statement furnished by the collector of slide and boom dues, shows the quantity of the various descriptions of timber that passed the Government works, during the season of 1912, as follows:—

| | Pieces. |
|---|---|
| To Three Rivers | 2,950,422 |
| To Shawenegan Falls | 1,369,991 |
| To Grand'Mère | 2,981,767 |
| Total | 7,302,180 |

The revenue on above was $60,450.91.

I have the honour to be, sir,

Your obedient servant,

F. X. THOS. BERLINGUET,

*Superintending Engineer, St. Maurice River Works.*

### Report on the Saguenay River Works.

(By P. E. Amiot, Superintending Engineer.)

The Saguenay booms are situated on the Saguenay river about six miles above Chicoutimi.

The amount expended for maintenance, repairs, rent of land, stretching, wintering, maintenance of alligator tug *Saguenay No. 102,* is $7,942.34.

All the usual works in connection with the maintenance of the boom were executed, they were placed last spring after having received the necessary repairs, they were opened and closed when required by the lumber companies and, last fall, they were placed in winter quarters.

I have the honour to be, sir,
Your obedient servant,
P. E. AMIOT,
*Superintending Engineer.*

### Trent River and Newcastle District.

On 9th April last, authority was given to expend the sum of $1,200 for the maintenance and operation of the slides and booms.

On 6th November last, the sum of $1,000 out of the amount mentioned above was authorized for repairs to the timber slide at Fenelon Falls, by day labour.

Upon examination it was found that the slide and dam were in such condition as to be beyond repairing.

There has been no expenditure.

### Burleigh Falls.

Owing to the extremely high stage of the water in the Trent canal, only preliminary work has been done.

In August, a job lot of timber, about 42 M feet b.m., was purchased for $886.50. An examination was made in October, and it was found that the required repairs were quite extensive and could be handled with the available funds only under favourable conditions. The water being too high, it was decided that repairs would not be started until January. However, the water has remained extremely high during the winter, and it was thought inexpedient to carry on the work at the present time.

To prevent loss, the timber, which was in the water, was hauled out and sorted. In addition to this, the required iron was purchased and is at the site of work.

Expenditure to March 31, $114.65.

## BRIDGES AND ROADS.

It may be stated that, in the older provinces of the Dominion, the Federal Government has confined itself, as a rule, to take under its exclusive control and make provisions towards the construction and maintenance of important interprovincial road bridges and bridges required across waterways.

In the sparsely settled districts of the Northwest Territories, the Government of Canada has undertaken to provide for the erection and maintenance of ordinary road bridges over large streams; bridges that are urgently needed to afford uninterrupted communication through trails and highways of national importance, which neither the municipalities to be more immediately benefited by the structures nor the territorial authorities most directly concerned, could be expected to erect and maintain at their sole expense.

During the last fiscal year, works have been executed on the following:—

ONTARIO AND QUEBEC.

BRIDGES AT OTTAWA, AND ROADWAY AND BRIDGE APPROACHES BETWEEN OTTAWA AND HULL.

*Ordinary Repairs.*

*Chaudière Slide Bridge.*—The roadway of this bridge was cleaned regularly, the sandstone pavement was repaired, and in winter, the ice was removed from around the supports of the bridge to afford free play as the water rose and fell in the hydraulic channels.

*Union Bridge.*—The flooring of this bridge was so much dilapidated that it had to be entirely renewed. The bottom course of the bridge is of oak and red pine, laid alternately, both 3 inches thick, the top being 3-inch hemlock. The sidewalk on the bridge was also replaced. The outside stringers of this walk are 4 by 12-inch red pine, while those on the inside are 4 by 9-inch white pine. The latter rest on the lower course of the roadway plank and are so spaced as to afford sufficient openings to drain the roadway and permit refuse on the bridge being easily passed through them. The top planking of the walk is 3-inch hemlock, laid longitudinally, the transverse supports being also hemlock, laid about one foot apart. The drainage chambers at the south end of the bridge were renewed in concrete, and two sections of cast-iron gratings were provided. The roadway of the bridge was cleaned frequently during the year.

*Roadway and Bridge Approaches between Ottawa and Hull.*—The retaining wall at south end of Hull slide bridge was repaired. Steel beams were set to carry the wooden platform, and the latter was renewed. A sidewalk, with suitable guard fence, was built from the Hull slide bridge southward, a distance of 250 feet. This walk is of 3-inch pine supported on cross pieces which rest on the retaining wall.

The sidewalk on the southern approach to the Union bridge was also much out of repair and had to be renewed. It is 127 feet in length, the top is of 3-inch hemlock, resting on stringers supported on posts and cribwork. The pavement on this approach was taken up and relaid, sand and fine stone being placed beneath the blocks to bring them to grade. At several places along this thoroughfare, the stone pavement was raised where depressions existed. The approaches were cleaned from time to time as required.

In the winter months, ice and snow were removed from the sidewalks of the bridges and causeway, and when slippery, sand was spread over their surfaces to improve the walking.

*Special Repairs.*

*Union Bridge and Chaudière Slide Bridge.*—The steelwork of these two bridges was well cleaned by the sand blast process, and then two coats of black Esco paint were applied, all being done in a thoroughly workmanlike manner.

STATEMENT showing Expenditure for Repairs to Bridges, for Fiscal Year ended 31st March, 1913.

| Name of work. | Province. | Electoral District. | Expenditure 1st April, to 31st October, 1912. | Expenditure 1st November, 1912, to 31st March, 1913. | Expenditure 1st April, 1912, to 31st March, 1913. |
|---|---|---|---|---|---|
| *Ordinary Repairs.* | | | $ cts. | $ cts. | $ cts. |
| Bridges at Ottawa, and roadway and bridge approaches between Ottawa and Hull— | | | | | |
| Chaudiere Slide Bridge.. | Ontario... | City of Ottawa..... | 150 25 | 205 82 | 356 07 |
| Union Bridge..... | Ont.&Que | City of Ottawa and District of Wright..... | 2,451 92 | 180 13 | 2,632 05 |
| Roadway and bridge approaches between Ottawa and Hull..... | Ont.& Que | " " .... | 701 25 | 790 25 | 1,491 50 |
| Total..... | ..... ... | ..... ..... | 3,303 42 | 1,176 20 | 4,479 62 |
| *Special Repairs.* | | | | | |
| Union Bridge and Chaudiere Slide Bridge..... | Que.& Ont | District of Wright and City of Ottawa ..... | 2,400 00 | ..... ... | 2,400 |
| Bryson Bridge..... | Quebec... | County of Pontiac..... | 2,624 05 | .. ..... | 2,624 05 |
| Portage du Fort Bridges .. | Ont.& Que | South Riding Renfrew and County of Pontiac ..... | 2,053 50 | 469 00 | 2,522 50 |
| Total for all bridges... | ..... | ... .. ..... ... ..... | .. .... ... | ..... | 12,026 17 |

19th May, 1913.

JOS. KENT,

*Accountant.*

BRYSON.

This bridge spans the Calumet channel of the Ottawa river, at the village of Bryson, connecting the mainland with Calumet island, in the county of Pontiac, and was built about twenty-seven years ago. The superstructure is of steel and the substructure of woodwork. The wooden piers have been replaced with concrete, with the exception of two, which remain in their original state. One of these piers is in midstream, standing in 40 feet of water, at low level, the height above the water being over 40 feet, so that the total height of the pier is over eighty feet. This pier carries the ends of the two truss spans, one of which is 210 feet in length, and the other 170 feet. One of the sets of timbers, forming the seat for the bearing plates of the trusses, became fractured, on account of the decayed condition of the supporting timbers, and the trusses had settled eighteen inches from the level, thus rendering the condition of the bridge exceedingly dangerous for those having occasion to use it. The pier is stone filled to a point about ten feet above low-water mark. False timber work was built on this filling and carried up to the top of the pier, and new bearing timbers were provided, the spans being raised by jack-screws. The guard rails, at both ends of the bridge, were also repaired and painted. The steel-work of the bridge was cleaned by sandblasting, and received two coats of black Esco paint.

CARP RIVER—C. N. O. RY.

An examination was made for the site of a new bridge across the Carp river, a southern tributary of the Ottawa, below Chats falls. It was found that the stream would not be detrimentally affected by the construction of the proposed bridge.

CHAPEAU.

Chapeau, a small village in Pontiac county, is located on Allumettes island, north shore of the Ottawa river. Bridge which has been constructed at this place crosses Culbute channel to the mainland.

A contract was entered into with the Cleveland Bridge and Engineering Company, in August, 1911, for the construction of steel superstructure and reinforced concrete roadway for bridge at Chapeau. The bridge, which was opened for traffic November 16, 1912, consists of seven Warren half-through spans, 80 feet long, on concrete substructure, with 625 lineal feet of approach fills, and a concrete floor, 18½ feet wide and 574 feet long. The shop and field inspection was done by the Canadian Inspection and Testing Laboratories, Limited.

The sum of $1,800 was authorized October 25, 1912, to remove the south half of the old bridge and placing stone around base of new piers, work on new approaches, including wooden handrailing and other necessary work.

Owing to lateness of season, the approaches were only temporarily improved and a wooden handrailing erected on same.

Further work could not be undertaken late in the year, owing to lack of funds, the total amount available having been paid to the contractors.

Expenditure to March 31, $24,043.50.

GRAND RIVER BRIDGE.

Grand River bridge is a highway bridge connecting the east and west banks of the Grand river, at the village of York, in the county of Haldimand. It is five miles from Caledonia, the nearest railway station. This bridge was constructed by the Dominion Government in 1891.

On the 10th April, 1912, authority was received to expend the sum of $500 in making necessary repairs.

The work was performed between the 1st of June and 28th of August last, and consisted of the renewal of 12 corbels, 30 stringers and a portion of the decking in timber trestle approach; the renewal of 250 lineal feet of handrailing along side of earth approach; the backing up of westerly abutment with concrete, and placing of rubble riprap in rear of said abutment; the relaying of riprap dry wall at east abutment, together with other minor general repairs.

The performance of this work left the bridge in good condition for the present.

In the execution of the above work, 4,932 feet b.m. of timber, 2 cords of stone, 12 yards of gravel, 10½ barrels of cement and 60 pounds of iron were used.

The total expenditure for the fiscal year 1912-13, is $524.35.

HAWKESBURY.

Hawkesbury, a town in Prescott county, with a population of 4,000, is located on the Ottawa river, midway between Ottawa and Montreal.

At its last session, Parliament voted $50,000 towards the construction of an interprovincial bridge between Hawkesbury and Grenville, across the Ottawa.

During the fiscal year, no further outlay was incurred pending the department's decision as to whether the bridge would be located through the Hawkesbury Lumber Company's property or combined with the projected new superstructure of the Canadian Northern railway bridge. A report was transmitted, November 23, covering

certain new features as to proposed right of way and alternate location of south end of bridge, as a distinct improvement in the scheme of proposed high level dock bridge structure.

KIOSH-KOQUI LAKE—C. N. O. RY. BRIDGE TRESTLE.

An examination was made in March for the site of a new bridge trestle across Kiosh-Koqui lake, in the township of Pentland, district of Nipissing, Ont., mileage 186·6 from Ottawa on the C. N. O. Ry. The proposed trestle, some 2,000 feet long, in maximum depth of 40 feet of water, provides for a 50-foot opening, not less than 150 feet from shore, which is satisfactory to the lumbermen operating on this lake.

LATCHFORD BRIDGE (MONTREAL RIVER).

Plans and estimates have been prepared and report submitted 23rd April, 1913, for widening the proposed reinforced concrete operating bridge of Latchford dam, under construction, to accommodate highway traffic across the Montreal river.

MATAPEDIA.

Matapedia, in Bonaventure county, is situated at the junction of the Matapedia and Restigouche rivers, fifteen miles west of Campbellton.

This place is an important station of the Intercolonial railway, the starting point of the Quebec Oriental railway and the headquarters of the Restigouche Salmon Fishing Club.

During the fiscal year 1912-13, the approach to the Interprovincial bridge built there, Quebec side, was completed by the construction of a cribwork, built with round cedar and filled with earth and stone, to facilitate the crossing of the railway tracks.

Amount expended, $778.49.

MISSISSIPPI RIVER—(FITZROY HARBOUR).—C. N. O. RY. BRIDGE.

An examination was made for the site of a new bridge across the Mississippi river, in the township of Fitzroy, county of Carleton, Ont., mile 33·55 west of Ottawa on the C. N. O. Ry. The proposed bridge is located in a portion of the river where there is a continuous series of rapids, and report, under date 23rd August, 1912, stated in effect that bridge would not interfere with possible outflow regulation.

MONTREAL RIVER—(ELK LANE).—T. & N. O. RY. BRIDGE.

The Timiskaming and Northern Ontario Railway bridge across the Montreal river near Elk Lake, Ont., was built and open to traffic, in accordance with the plans approved by an Order in Council of 19th August, 1912.

MUSKRAT RIVER—(MEATH STATION).—C. P. RY. BRIDGE.

An examination was made for the site of a new bridge across the Muskrat river, where the C. P. Ry. propose to do away with the existing 600-foot trestle built, skew to the stream, some 20 years ago, and which intersects the highway bridge. The grade crossing being extremely dangerous, it is intended to divert the line to cross the river slightly below the original location, one half mile downstream but normal thereto. The new bridge, to consist of an 80-foot half-deck plate girder span on concrete abutments, was approved by Order in Council of 15th June, 1912. No progress has been reported on this structure, to date.

OTTAWA RIVER—(CHATS FALLS).—C. N. O. RY. BRIDGE.

The bridge under construction by the Canadian Northern Ontario Railway across the Ottawa river at Chats falls, Que., in accordance with the plans approved by an Order in Council of 30th September, 1912, had its west abutment and three piers completed, besides some work done on three of the remaining eight piers, on the 31st March.

OTTAWA RIVER—(MATTAWA).—C. P. RY. BRIDGE.

The Canadian Pacific Railway bridge across the Ottawa river, at Mattawa, Ont., was reconstructed in accordance with the plans approved by an Order in Council of the 11th January, 1911. The bridge was practically completed during the fiscal year ending March 31.

OTTAWA RIVER (PORTAGE DU FORT)—C. N. O. RY. BRIDGE.

The bridge under construction by the Canadian Northern Ontario railway across the Ottawa river at Portage du Fort, Que., in accordance with the plans approved by an Order in Council of 29th July, 1912, had its last abutment and six piers completed, one pier partly concreted and three piers under excavation, at the close of the fiscal year, March 31.

PORTAGE DU FORT.

This bridge spans the Ottawa river at the village of Portage du Fort, Que., connecting this place with the province of Ontario. The bridge across the main channel is 295 feet in length, and the smaller one at the village, 203 feet. Both these bridges were cleaned by sand blast, and afterwards received two applications of black Esco paint. In order to improve conditions for vehicular traffic on the approaches to these bridges, the roadway was repaired and some of the worst grades were reduced. At the Ontario end of the bridge across the main channel, a fill was made extending over a distance of 120 feet with a width of 21 feet at top, the maximum depth being 5½ feet. The foundation was made with large stones, with a top dressing of gravel. At the top of this grade, solid rock was blasted for an extent of 10 feet by 12 feet, as it proved a serious obstruction to teams with heavy loads going to and returning from Portage du Fort. Guard fences were erected on both sides of this fill, the length of each being 144 feet. The roadway at several other places was improved by filling and grading. On the roadway between the two bridges, on the island, the guard fence was renewed for a length of 216 feet, and the road-bed was treated with stone and gravel. Three of the cope stones on the wing wall at the Ontario abutment, which had become dislodged, were reset in cement mortar, and a heel of concrete was made to prevent further slipping.

RIDEAU RIVER (HOGS BACK)—C. P. RY. BRIDGE.

The Canadian Pacific railway bridge across the Rideau river at Hogs Back, Ont., was reconstructed in accordance with the plans approved by an Order in Council of 28th September, 1912. The bridge was practically completed, during the fiscal year ending March 31.

STURGEON RIVER—(EAST CROSSING).—C. N. O. RY. BRIDGE.

The bridge under construction by the Canadian Northern Ontario railway across the Sturgeon river (east crossing), district of Nipissing, Ont., at mile 249·9 from Ottawa, in accordance with the plans approved by an Order in Council of 7th December, 1912, was commenced in March.

STURGEON RIVER (MIDDLE CROSSING)—C. N. O. RY. BRIDGE.

An examination was made for the site of a new bridge across the Sturgeon river (west crossing), in the township of Field, district of Nipissing, mile 257·6 from Ottawa. The proposed C. N. O. Ry. bridge to consist of two half-deck plate girder spans, 115 feet 6 inches, and half-deck plate girder main span 120 feet 4 inches, on concrete piers and abutments, to clear low-water level by 20 feet and ordinary high-water level by 10 feet. Recommended for approval, September 20, 1912, with proviso that the C. N. O. Ry. remedy any obstruction caused by the piers and cofferdams to the free floating of sawlogs, and assume the cost, later, of providing movable bridge, or increasing the clearance, for navigation purposes.

WALTHAM BRIDGE (OTTAWA RIVER).

An examination was made, plans and estimates prepared, and report submitted 31st December, 1912, for a traffic bridge acrss the Culbute channel of the Ottawa, from Waltham village to Allumettes island, Que.

## Manitoba.

ASSINIBOINE RIVER—ARLINGTON STREET BRIDGE.

An examination was made of the site of the bridge proposed to be erected by the city of Winnipeg, crossing the Assiboine river, between Arlington and Mitchell streets, on July 12, 1912.

The bridge to be erected is the one formerly over the Assiniboine river, at Osborne street, and consists of one 80-foot shore span, and a swing span of 255 feet 7 inches over all, leaving a clear opening of 107 feet, but as the bridge is on askew, the opening at right angles to the current will be 90 feet, which is sufficient for navigation purposes.

ASSINIBOINE RIVER.—CANADIAN NORTHERN RAILWAY BRIDGE.

The Canadian Northern Railway Company filed an application for a bridge, over the Assiniboine river, directly west of the wooden Howe truss bridge, which is in use at present. The new bridge consists of two through plate girder shore spans of 49 feet 6 inches each; two 80-foot spans, and a bascule lift span of 101 feet, which will give a clearance of 80 feet. This span will be sufficient for navigation purposes.

It was recommended that the plans be accepted, upon the company building a fender of pile construction along the footing course on the south side of the bascule pier.

ASSINIBOINE RIVER.—GRAND TRUNK PACIFIC RAILWAY BRIDGE.

An application having been made by the Grand Trunk Pacific Railway Company to construct a bridge, over the Assiniboine river, at Mileage 19·5 in the SE. ¼ section 1-10-18 west, principal meridian, to consist of two 225-foot through spans, at an elevation of 17 feet above ordinary high water. No provision was made for a swing or bascule opening, and as the Assiniboine river is recognized as a navigable stream, it was recommended that if the company desired to build according to the present plans, that they give a bond satisfactory to the department, when called upon they will build a swing or bascule lift span, with an opening of 80 to 100 feet. Otherwise, that they furnish new plans, showing the necessary openings.

MINIOTA BRIDGE.

A request having been made by the municipality of Miniota, for aid in constructing a bridge across the Assiniboine river, about a mile and one-quarter from Uno Station, on the Grand Trunk Pacific Railway, and two and one-half miles from the

boundary of the municipality of Archie. It is also near the southwest corner of the Indian reserve.

Seventy thousand bushels of grain were hauled across the river in 1910-11, and there is also a considerable amount of other traffic, which is believed will be increased by the construction of the bridge. The estimated cost of a bridge, with a clear span of 192 feet, including concrete abutments, is $18,500.

### FAIRFORD RIVER.—CANADIAN NORTHERN RAILWAY BRIDGE.

An examination was made of the site of the proposed crossing of the Fairford river, by the Canadian Northern Railway Company's bridge, the plans of which show two shore spans of through plate girders 70 feet each, and a swing span of 188 feet over all, with clear openings of 77 feet each side of the pivot pier. This is sufficient for navigation purposes.

### RED RIVER.—ELM PARK CO.

An examination was made of the site of a bridge, which the Elm Park Company propose building, over the Red river, at Elm Park, from a point opposite Riverdale avenue, in the rural municipality of Saint Vital, to a point on the south side of Jubilee avenue, in the city of Winnipeg.

The plans call for one span 222 feet centre to centre, and a swing span of 278 feet over all, having two clear openings of 115 feet each, which will be sufficient for navigation purposes. The bridge will be placed on a slight skew of 4° 50′, so as to place the piers parallel to the current.

### RED RIVER.—CANADIAN PACIFIC RAILWAY BRIDGE.

An examination was made November 29, of the site of a proposed double track bridge, across the Red river, at Kildonan, Manitoba.

The plans submitted show the bridge crossing at a skew of 55° at a sharp bend of the river, and consists of a swing span 312 feet over all, leaving an opening on each side of the centre pier of 104 feet, at right angles to the piers; two 80-foot girders on the east side, and three 80-foot girders on the west side. The piers are well placed.

### WINNIPEG RIVER —LAC DU BONNET.

On October 19, an examination was made of the city of Winnipeg's railway bridge, over the Winnipeg river, at Lac du Bonnet.

At the point where the bridge is situated, the water is very rapid. Considerable permanent traffic, as well as campers' traffic, has developed on the lake. There is very little clearance under the bridge, at high stages of the water, not sufficient to pass ordinary-size motor boats. It is proposed to improve an opening under the west end of the bridge, so that it will not be necessary to open the swing span for small boats, barges, etc. This will be done by the city of Winnipeg.

## ALBERTA.

### BOW RIVER BRIDGE.

This bridge consists of four spans, superstructure of which is constructed of steel. Each span is approximately 90 feet long. The roadway has a width of 16 feet. There is a sidewalk on the west side of the bridge, having a width of 6 feet. During the fiscal year 1911-12, a new flooring was placed on this bridge at a total cost of $553.83. During the past fiscal year, the work consisted of placing new joists under the bridge to strengthen the existing joists, which were not affected by the work.

There were 104 pieces, 3 by 10 by 16 feet long, placed under the bridge as joists, divided equally among the spans. It was considered necessary to do this work, as the old joists had been on the bridge for many years and were in bad repair.

EDMONTON BRIDGE.

The Edmonton bridge crosses the North Saskatchewan river between Edmonton and Edmonton South, formerly called Strathcona. It is 700 feet long between abutments and consists of four 175-foot spans, with a roadway, 17 feet wide, and two sidewalks, each having a width of 7 feet. The bridge is constructed of steel with Pratt trusses of seven 25-foot panels each. The approximate dead load per lineal foot is 2,420 pounds. The piers are of concrete, approximately 43 feet high above the river bed. These are based on concrete foundations deposited in casings in which piles were driven before the concrete was deposited. The abutments also rest on pile foundations.

This bridge was constructed in the year 1899. In 1901, an indenture was drawn up by which the Edmonton, Yukon and Pacific Railway Company was allowed to place its track on the bridge and to run trains across, subject to certain responsibilities with regard to accidents, improvements, etc. In November, 1908, an agreement was drawn up whereby the Edmonton Radial (Electric) railway, belonging to the city of Edmonton, was allowed to place rails on the bridge, and a street car service was inaugurated across the bridge between Edmonton and Edmonton South. This agreement was also subject to certain conditions whereby the Edmonton Radial railway assumed responsibility with regard to the directing of traffic and the upkeep of the bridge. At the beginning of the fiscal year 1911-12, instructions were issued by the department that the cost of all repairs to the Edmonton bridge should be divided equally between the Edmonton Radial railway, the Canadian Northern Railway Co., operating under the charter of the Edmonton, Yukon and Pacific Railway Co., and the Department of Public Works. Later on, an offer made by the city of Edmonton to do all the work in connection with the repairs to the bridge was accepted, the expense of same to be divided as above.

There has been returned for payment, on account of repairs for the past fiscal year, the sum of $3,973.94. This does not, however, pay off entirely the department's share of the costs of work, and the sum of $764.60 was carried forward to be paid during the fiscal year 1913-14.

The repairs carried out during 1912-13, were quite extensive and consisted of, besides general maintenance, repair work, an entire new road flooring surfaced with creosoted wood blocks, wooden shields for protecting the lower chords from injury by corrosion, etc., due to waste material falling from the bridge floor; scraping and repainting the steel, with two coats of paint; protecting the river bed around the north pier with rock riprap, there being deposited around the pier 43 double loads of boulders for this purpose.

SPRAY RIVER BRIDGE.

This bridge consists of one wooden span, approximately 130 feet in length. Work was confined during the past fiscal year to re-painting the bridge.

## British Columbia.

KYAX RIVER.—G. T. P. RY. CO.

Kyax river, about thirty-three miles out of Prince Rupert, along the Skeena river, was visited and a report made with reference to the crossing of the same by the Grand Trunk Pacific Railway. The railway company requested permission to build a through span bridge over this river, but it was found that the stream was navigable for some five or six miles, and recommendation was forwarded to Ottawa that the railway company be obliged to provide a draw span at this point.

CEMENT LABORATORY,
OTTAWA, August 14, 1913.

E. D. LAFLEUR, Esq.,
Chief Engineer,
Public Works Department.

SIR,—I have the honour to transmit herewith the annual report of the Dominion Testing Laboratory for the year ended March 31, 1913.

During the last twelve months, four thousand two hundred and ninety-three (4,293) samples were submitted to this laboratory for test purposes, which number shows an increase of 1,373 samples over the same period last year.

During the year, 25,596 briquettes, 1,073 specific gravity, 214 chemical analyses, and 90 other tests were made.

The following table shows the increases in work, and samples received in the laboratory in the last nine years.

| Year. | Sample received. | Briquettes made. | Increase over 1904. |
|---|---|---|---|
| | | | per cent. |
| 1904 | 237 | 1,422 | |
| 1905 | 756 | 4,536 | 219 |
| 1906 | 835 | 5,010 | 253 |
| 1907 | 1,246 | 7,476 | 426 |
| 1908 | 1,454 | 8,724 | 514 |
| 1909 | 1,481 | 8,886 | 525 |
| 1910 | 2,360 | 14,160 | 896 |
| 1911 | 2,920 | 17,520 | 1133 |
| 1912 | 4,293 | 25,596 | 1711 |

Of the 4,293 samples received and tested, 4,281 were accepted and 12 condemned; the 12 samples rejected were 10 samples of waterproofing and 2 samples of sand. Not a single sample of cement was rejected during the last fiscal year, which proves that with the constant testing in the laboratory of this department the cement companies have brought their cement to a higher standard, thereby benefiting the whole of the Dominion.

The samples received were from the following:—

| | |
|---|---|
| Engineers of the Public Works Department | 4,256 |
| Private concerns | 20 |
| Architects of the Public Works Department | 9 |
| Transcontinental Railway | 5 |
| Marine and Fisheries Department | 3 |

The following table shows the number of samples received of the different brands:—

| | | | |
|---|---|---|---|
| Star | 1,403 | Sterling | 27 |
| Canada | 1,296 | Blue Lake | 16 |
| Alpina | 531 | Sand and gravel | 15 |
| International | 509 | Saugeen | 13 |
| Lakefield | 90 | Waterproofing | 11 |
| Belleville | 81 | Colonial | 9 |
| Lehigh | 72 | Huron | 9 |
| National | 56 | White Bros. | 9 |
| Vulcan | 36 | Unmarked | 3 |
| Monarch | 36 | Concrete Cube | 1 |
| Imperial | 33 | | |

It was again found necessary to increase the staff of this laboratory; another physical tester started to work in March, 1913. In the course of the next few years, the staff will have to be again increased by four or five.

New quarters were obtained last January for the offices, which gave us more room for the physical testers, they having taken up the rooms occupied by the offices before. With that small increase of room we have taken up the testing of sand on a larger scale, as the time has come when the testing of sand is just as important as that of the cement; therefore, we will make it a point (when this sand testing branch is equipped) to get samples of sand from all the Government work, and test same thoroughly.

Judging from the way in which the work has increased in the last four or five years it is safe to say that the number of rooms now occupied by this laboratory will have to be doubled inside of two years, if the work is to be carried on scientifically.

I have the honour to be, sir,

Yours obediently,

GEO. E. PERLEY,

*Director.*

**STATEMENT consisting of List of Wharfs, Piers, Breakwaters, etc., constructed or purchased by the Department of Public Works.**

## DEPARTMENT OF PUBLIC WORKS, CANADA.

The statement includes the wharfs and landings transferred to the control of the Department of Marine and Fisheries for the purpose of appointing a wharfinger to collect wharfage dues and tolls, and make petty repairs when required. Such transfer does not necessarily imply that the work of extending, repairing or improving these has passed out of the hands of this branch of the service; such works are still executed by the engineering branch of the Department of Public Works.

### NOVA SCOTIA.

| Place. | County. | Work. | Date Transferred to Marine and Fisheries. |
|---|---|---|---|
| Abbot's Harbour | Yarmouth | Cribwork. | |
| Abercrombie | Pictou | Wharf. | |
| Abrams River | Yarmouth | " | |
| Advocate Harbour | Cumberland | " | Jan. 10, 1906. |
| Amaguades Pond | Cape Breton | Wharf and bridge | March 28, 1908. |
| Amherst (Port Lawrence). | | | |
| Amherst Point | Cumberland | Wharf. | |
| Amiros Hill | Yarmouth | " | |
| Anderson's Cove | Annapolis | Breakwater. | |
| Annapolis Royal | " | Wharf | Oct. 7, 1907. |
| Apple River | Cumberland | Breakwater. | |
| Argyle Head | Yarmouth | Wharf. | |
| Argyle Sound | " | " | |
| Arichat | Richmond | " | Feb. 2, 1912. |
| Arichat West (West Arichat). | | | |
| Arisaig | Antigonish | Breakwater. | |
| " | " | Pier | June 12, 1888. |
| Aspy Bay | Victoria | Wharf. | |
| Avonport | Kings | " | June 12, 1888, |
| Babin's Cove | Richmond | " | March 29, 1897. |
| Baddeck River | Victoria | Shear dam. | |
| Baddeck | " | Wharf | Nov. 2, 1912. |
| Bailey's Brook | Pictou | Breakwater and channel. | |
| Baker's Point (E. Jeddore) | Halifax | Wharf | April 13, 1910. |
| Barachois | Victoria | Breakwater. | |
| Barrington | Shelburne | Wharf | Aug. 5, 1891. |
| Barrington Head | " | " | April 31, 1910. |
| Bass Pond | Antigonish | Pile wharf. | |
| Bass River | Colchester | Wharf | Nov. 18, 1897; Sept. 14, 1904. |
| Battery Island | Pictou | Small landing. | |
| Battery Point | Annapolis | Two breakwaters | Oct. 14, 1907. |
| Baxter's | Inverness | Wharf. | |
| Baxter's Harbour | Kings | Breakwater. | |
| Bayfield | Antigonish | Wharf, | June 12, 1888. |
| " | " | Wharf and breakwater. | |
| Bay St. Lawrence | Victoria | Protection pier. | |
| Bear Cove | Digby | Breakwater. | |
| Bear Point | Shelburne | Wharf | Feb. 10, 1902. |
| Bear River | Annapolis and Digby | Pier | Aug. 27, 1913. |
| Bear Trap | Lunenburg | Channel and protection. | |
| Beaver Harbour | Halifax | Cribwork. | |
| Beaver River | Yarmouth | Breakwater. | |
| Beckerton (Port) | Guysborough | Wharf. | |
| Belliveau Cove | Digby | Two breakwaters | June 12, 1888. |

NOVA SCOTIA.—*Continued.*

| Place. | County. | Work. | Date transferred to Marine and Fisheries. |
|---|---|---|---|
| Big Bras d'Or | Victoria | Wharf. | |
| Big Harbour (Port Bevis) | " | " | |
| Big Pond | Cape Breton | " | |
| Big Tracadie (Tracadie). | | | |
| Black Point | Shelburne | " | Oct. 26, 1903. |
| " | Richmond | " | |
| Blanche Harbour | Shelburne | Groyne. | |
| Blomidon (Mill Creek). | | | |
| Blue Rock | Antigonish | Breakwater. | |
| Bluff Head | Yarmouth | " | |
| Boisdale | Cape Breton | Wharf (wrecked). | |
| Bosdet Point | Richmond | " | |
| Bouche River (Havre au Bouche). | | | |
| Boularderie | Cape Breton | " | Nov. 18, 1897. |
| Boularderie (Ross Ferry). | | | |
| Boularderis Centre | Victoria | " | |
| Bourgeois Inlet | Richmond | " | |
| Bourques Cove | Yarmouth | " | |
| Breton Cove | Victoria | " | |
| Breen's Pond | Antigonish | Breakwater. | |
| Broad Cove | Lunenburg | " | June 12, 1888. |
| Broad Cove Marsh | Inverness | Wharf | Feb. 26, 1890. |
| Brooklyn | Queens | " | Before 1891 and June 30, 1904. |
| " | " | New breakwater. | |
| Brule | Colchester | Wharf | June 12, 1888. |
| Burk's Head | Victoria | Breakwater. | |
| Burlington | Hants | Wharf | June 14, 1909. |
| Burying Island | Guysborough | Breakwater. | |
| Canada Creek | Kings | Two breakwaters | June 12, 1888. |
| Canning | " | Wharf | Nov. 27, 1911. |
| Cape Auget | Richmond | Breakwater. | June 12, 1888. |
| Cape Cove (Cape St. Mary) | Digby | " | |
| Cape Negro Island | Shelburne | Beach protection. | |
| Cape North | Victoria | Wharf. | |
| Cape Rouge | Inverness | Breakwater. | |
| Cape Sable Island | Shelburne | Channel. | |
| Caribou Island | Pictou | Protection. | |
| Castle Bay | Cape Breton | Wharf. | |
| Centreville | Shelburne | " (not Govt.) | |
| Chapel Cove | Richmond | " (building). | |
| Charlesville | Shelburne | Breakwater. | |
| Charlos Cove | Guysborough | " | |
| Chebogue | Yarmouth | Wharf | July 29, 1901. |
| Chebogue | " | Protection. | |
| Chegoggin | " | Breakwater. | |
| " Point | " | " | |
| Chester | Lunenburg | Canal. | |
| Cheticamp | Inverness | Wharf and protection. | |
| Cheverie | Hants | Wharf. | |
| Chipmans Brook | Kings | " | June 12, 1888. |
| Church Point | Digby | Breakwater and wharf | June 12, 1888. |
| Clarks Harbour | Shelburn | Wharf. | |
| Clements Port | Annapolis | Channel. | |
| Clifton | Colchester | Wharf | June 20, 1895. |
| Coffin's Island | Queens | Breakwater. | |
| Comeaus | Digby | Wharf. | |
| Comeaus Hill | Yarmouth | " | |
| Comeauville | Digby | " | |
| Cottage Cove | Annapolis | Breakwater. | |
| Cow Bay (Port Morien) | Cape Breton | " | June 13, 1888. |
| Cow Bay Run | Halifax | " | |
| Cranberry Head (Sandford). | | | |
| Creignish | Inverness | Wharf. | |
| Cribbins Point | Antigonish | " | Oct. 2, 1895. |
| Crofts Cove | Lunenburg | Landing. | |
| Culloden | Digby | Breakwater. | |
| Cunninghams Point | Guysborough | Wharf. | |
| Davids Cove | Digby | Breakwater. | |

NOVA SCOTIA.—*Continued.*

| Place | County | Work. | Date transferred to Marine and Fisheries. |
|---|---|---|---|
| Deep Brook | Annapolis | Wharf | Aug. 11, 1910. |
| Delaps Cove | " | Breakwater | Nov. 28, 1889. |
| Delhaven (see Pereaux). | | | |
| Deloreys Beach | Antigonish | Breakwater. | |
| Descousse | Richmond | Wharf | Jan. 19, 1904. |
| Devils Island | Halifax | Breakwater. | |
| Digby | Digby | Pier | June 12, 1888. |
| Diligent River | Cumberland | Wharf. | |
| Donalds Head (see Cape Sable Island) | | | |
| Dover | Guysborough | Wharf. | |
| Drum Head | " | " | Dec. 17, 1906. |
| Dublin Shore | Lunenburg | Breakwater and wharf. | |
| Duncans Cove | Halifax | Breakwater. | |
| Eagle Head | Queens | " | June 12, 1888. |
| East Bay | Cape Breton | Wharf | Feb. 28, 1884. |
| East Bay (North Side) | " | " | |
| East Berlin | Queens | Breakwater. | |
| East Chezzetcook | Halifax | 2 breakwaters. | |
| East Dover | " | Wharf. | |
| E. Harrington Cove | " | " | July 11, 1896. |
| E. Jeddore (see Bakers Point) | | | |
| E. Jordan River (see Jordan). | | | |
| East Port L'Hebert | Halifax | 2 small piers. | |
| E. Port Medway | Queens | Wharf. | |
| E. Ragged Island (Rockland) | Shelburne | " | |
| Eastern Passage | Halifax | " | |
| East River (Sheet Harbour). | | | |
| East Ship Harbour | " | " | |
| East Tracadie (Tracadie). | | | |
| Eatonville | Cumberland | Breakwater. | |
| Economy | Colchester | Wharf. | |
| Ecum Secum | Guysborough | " | April 30, 1907. |
| Eel Brook | Yarmouth | " | |
| Englishtown | Victoria | " | July 24, 1902. |
| Eskasoni | Cape Breton | " | |
| Falls Point | Shelburne | Breakwater. | |
| Far Point Island (Surette). | | | |
| Faulkners Creek | Colchester | Wharf. | |
| Feltzen | Lunenburg | " | |
| Finlay Point | Inverness | " | |
| Five Islands | Colchester | " | |
| Port Lawrence | Cumberland | 2 Wharfs. | |
| Fox Island | Halifax | Protectiion and breakwater. | |
| Freeport | Digby | Pier and Breakwater | Nov. 21, 1906. |
| French Cross (Morien) | | | |
| French River | Victoria | Breakwater. | |
| French Village | Halifax, | Wharf. | |
| Friars Head | Inverness | Wharf and seawall. | |
| Fruids Point | Shelburne | Wharf. | |
| Gabarus | Cape Breton | Breakwater-wharf | Dec. 16, 1912. |
| Georgeville | Antigonish | Wharf. | |
| Gillis Point | Victoria | " | |
| Glace Bay | Cape Breton | (Subscription) Protection-wharf. | |
| Goose Bay | Yarmouth | Wharf. | |
| Grand Etang | Inverness | Bridge, etc. | |
| Grand Narrows | Cape Breton | Wharf | June 12, 1888. |
| Granite Village | Shelburne | Mooring pier. | |
| Granville Centre | Annapolis | Wharf | June 13, 1903. |
| Grass Cove | Victoria | " | |
| Great Village | Colchester | Breakwater and wharf | July 8, 1888. |
| Green Cove | Victoria | Breakwater. | |
| Green Harbour | Shelburne | Wharf. | |
| Gros Nez | Richmond | Breakwater. | |
| Grosse Coques | Digby | 2 Breakwaters. | |
| Gulf Shore | Cumberland | Breakwater. | |
| Gull Island | Queens | " | |
| Gunning Cove | Shelburne | Wharf. | |

NOVA SCOTIA.—*Continued.*

| Place. | County. | Work. | Date transferred to Marine and Fisheries. |
|---|---|---|---|
| Half Island Cove | Guysborough | Breakwater. | |
| Halls Harbour | Kings | " | June 12, 1888. |
| Hampton | Annapolis | Pier | June 12, 1888. |
| Hantsport | Hants | Wharf | Aug. 11, 1900. |
| Harbourville | Kings | 2 Piers | June 12, 1888. |
| Harrington Cove | Halifax | Wharf. | |
| Haulover | Shelburne | Canal. | |
| Havre au Bouche | Antigonish | Wharf | Nov. 14, 1910. |
| Hawk Inlet | Shelburne | Channel. | |
| Heatherton | Antigonish | Protection. | |
| Herring Cove | Halifax | Breakwater and wharf. | |
| Hiltz Narrows | Lunenburg | Wharf. | |
| " Point | " | Pier (Wreck). | |
| Hortons Landing (see Lower Horton). | | | |
| Hubbards Point | Yarmouth | Wharf. | |
| Hunts Point | Queens | " | |
| Indian Brook | Shelburne | " | |
| Indian Harbour | Halifax | " | Oct. 18, 1905. |
| Indian Islands | Cape Breton | 2 Piers. | |
| Ingonish | Victoria | Wharf. | |
| " (North Bay) | " | Breakwater. | |
| " (South Bay) | " | Wharf, Pier and channel. | |
| Inverness (see Broad Cove) | | | |
| Iona | " | 2 Wharfs | June 12, 1888. |
| Iona | " | New wharf | Aug. 9, 1909. |
| Irish Cove | Cape Breton | Wharf | Sept. 12, 1892. |
| Isaac's Harbour | Guysborough | " | Aug. 28, 1901. |
| Island Point | Victoria | " | June 17, 1890. |
| Janvrin Island | Richmond | " | |
| Jeddore | Halifax | " | |
| Jersey Cove | Victoria | " | |
| Joggins | Cumberland | Breakwater- wharf. | |
| Johnstons Harbour | Richmond | Wharf. | |
| Jones Harbour | Shelburne | " | |
| Jordan River | " | " | July 11, 1896 |
| Judique (Baxters). | | | |
| Kelly's Cove | Yarmouth | Protection | May 29, 1899. |
| " " | " | Breakwater pier | March 16, 1907. |
| Kempt Head | Victoria | Wharf. | |
| Ketch Harbour | Halifax | Breakwater. | |
| Kingsport (Oak Point) | Kings | Pier | June 12, 1888. |
| Krout Point | Lunenburg | Wharf. | |
| Labilles Point | Richmond | " | |
| La Have Islands | Lunenburg | Boat Channel. | |
| L'Ardoise | Richmond | Breakwater and dam. | |
| Larry's River | Guysboro | " | |
| Lawlor's Island | Halifax | 2 wharfs. | |
| Leitch's Creek | Cape Breton | Wharf. | |
| Leonard's Cove | Annapolis | Breakwater. | |
| Lingan Beach | Cape Breton | Protection. | |
| Litchfield | Annapolis | Breakwater. | |
| Little Anse | Richmond | " | |
| Little Bras D'Or | Cape Breton | Wharf. | |
| Little Harbour | Pictou | " | |
| Little Harbour | Shelburne | Breakwater. | |
| Little Hope Island | Queens | Seawall. | |
| Little Judique | Inverness | Breakwater. | |
| " Liscomb | Guysborough | Wharf, building. | |
| " Narrows (North) | Inverness | Wharf. | |
| Little Narrows | Victoria | " | May 22, 1901. |
| Little River Harbour | Yarmouth | " | |
| Little River | Digby | " | Jan. 27, 1912. |
| Little Tancook | Lunenburg | Breakwater. | |
| Livingston Cove | Antigonish | " | |
| Lockeport | Shelburne | " | |
| Long Island | Cape Breton | 2 Ferry wharfs. | |
| Long Point | Inverness | Breakwater. | |
| Louis Head | Shelburne | " | |

## NOVA SCOTIA—*Continued.*

| Place. | County. | Work. | Date transfered to Marine and Fisheries. |
|---|---|---|---|
| Lower Argyle | Yarmouth | Wharf. | |
| Lower Cove | Cumberland | Breakwater. | |
| Lower Horton | Kings | Wharf | April 5, 1898. |
| Lower Jordon Bay (See West Jordon). | | | |
| Lower Plymouth | Yarmouth | " | |
| " " | " | New wharf. | |
| " Ship Harbour | Halifax | Wharf. | |
| " Washabuck | Victoria | Beach improvements. | |
| " West Pubnico | Yarmouth | Wharf. | |
| Mabou | Inverness | Pier and protection. | |
| Mabou Bridge | " | Wharf | |
| Main-à-Dieu | Cape Breton | Breakwater. | |
| Maitland | Hants | 2 wharfs | Jan. 22, 1885. |
| Malagash | Cumberland | Wharf. | |
| Malagawatch | Inverness | Protection. | |
| Malignant Cove | Antigonish | 2 piers. | |
| Marble Mountain | Inverness | Wharf. | |
| Margaree | " | Pier and protection. | |
| " Island | " | Wharf. | |
| " River | " | Protection. | |
| Margaretville | Annapolis | Pier | June 12, 1888. |
| McNair's Cove | Antigonish | Breakwater. | |
| McNutt's Island | Shelburne | Cribwork. | |
| Meagher's Beach | Halifax | Pile work. | |
| Medway River | Queens | Channel. | |
| Melbourn | Yarmouth | Wharf. | |
| Melford | Guysborough | " | |
| Merigomish | Pictou | " | |
| " Big Isd | " | " | |
| Meteghan River | Digby | 2 Breakwaters | June 12, 1888. |
| Meteghan | " | Breakwater and pier | " " " |
| Middle East Pubnico | Yarmouth | Wharf. | |
| " Country Harb | Guysborough | " | Oct. 24, 1908. |
| Middle River | Victoria | Dams. | |
| " " Lower | " | " | |
| Mill Cove | Lunenburg | Breakwater. | |
| Mill Creek (Blomidon) | Kings | Wharf. | |
| Militia Point | Inverness | " | June 12, 1888. |
| Minasville | Hants | Breakwater—wharf | May 22, 1913. |
| Minudie | Cumberland | Wharf. | |
| Mira River | Cape Breton | " | |
| Moidart | Antigonish | " | |
| Monday Point (Grove Point) | Cape Breton | " | June 18, 1901. |
| Monk's Head | Antigonish | Protection. | |
| Morden (French Cross) | Kings | Breakwater | June 12, 1888. |
| Muises Point | Yarmouth | Wharf. | |
| Mushaboom | Halifax | " | |
| Musquodoboit | " | " | |
| " Harbour | " | Ballast wharf. | |
| McKay's Point | Victoria | Wharf. | |
| McPherson's Cove | Cape Breton | " | |
| Necum Teuch | Halifax | " | |
| Negro Island (see Cape Negro Island) | | | |
| Neil's Harbour | Victoria | Breakwater. | |
| New Campbelton | " | Wharf. | |
| New Edinburgh | Digby | Breakwater—wharf | March 22, 1912. |
| Newellton | Shelburne | Wharf | June 3, 1905, January 11, 1906. |
| New Glasgow | Pictou | " | |
| New Harbour | Guysborough | Breakwater. | |
| New Haven | Victoria | Protection. | |
| Newport | Hants | Wharf. | |
| Noel | " | " | |
| Northeast Harbour | Shelburne | " | |
| North Gut (St. Anne) (Seymour Point) | Victoria | " | |
| North Ingonish (Ingonish North) | | | |
| North Sydney | Cape Breton | Breakwater. | |

SESSIONAL PAPER No. 19

NOVA SCOTIA—*Continued.*

| Place. | County. | Work. | Date transferred to Marine and Fisheries. |
|---|---|---|---|
| North Wallace | Cumberland | Wharf | December 14, 1898. |
| Northwest Cove (see Tancook) | | | |
| Nyanza | Victoria | " | |
| Oakpoint (Kingsport). | | | |
| Ogden Pond | Antigonish | Breakwater. | |
| Ogilvie | Kings | " pier. | |
| Osborne | Halifax | Pier. | |
| Osborne | Shelburne | Wharf. | |
| Ostrea Lake | Halifax | " (public). | |
| Owl's Head | " | " | March 12, 1910. |
| Oyster Ponds | Guysborough | Two breakwaters and protection. | |
| Parker's Cove | Annapolis | Breakwater | May 28, 1901. |
| Parrsboro | Cumberland | Wharf | February 25, 1902. |
| Partridge Island | " | Pier | June 12, 1888. |
| Peggy's Cove | Halifax, | Protection. | |
| Pembroke | Hants | Breakwater. | |
| Pereaux | Kings | Wharf. | |
| Petit de Grat | Richmond | Protection. | |
| Petite Riviere | Lunenburg | Breakwater. | |
| Phinney Cove | Annapolis | Wharf | Decémber 7, 1907. |
| Pickett Pier | Kings | " | April 21, 1884. |
| Pickett River | " | " | |
| Pictou Island | Pictou | Two wharfs | June 12, 1888. |
| Pictou Light | " | Protection. | |
| Pinckney's Point | Yarmouth | Breakwater. | |
| Piper's Cove | Cape Breton | Wharf. | |
| Pleasant Bay | Inverness | " | |
| Pleasant Harbour | Halifax | Wharf. | |
| Plymouth | Yarmouth | " | Feb. 14, 1902. |
| Plympton | Digby | Pier | June 12, 1888. |
| Poirierville | Richmond | Breakwater. | |
| Porpers Pond | Guysborough | " | |
| Port au Pique | Colchester | Wharf | Dec. 18, 1912. |
| Port Dufferin (Salmon River) | | | |
| Porters Lake | Halifax | Channel. | |
| Port Felix | Guysboroug | Wharf | Aug. 22, 1913. |
| Port George | Annapolis | Breakwater. | |
| " | " | Wharf | June 12, 1888. |
| Port Greville | Cumberland | Breakwater and wharf. | |
| " Hasting | Inverness | Wharf. | |
| " Hawkesbury | " | " | March 14, 1907. |
| " Hillford | Guysborough | Breakwater. | |
| " Hood | Inverness | Pier and harbour works | June 12, 1888. |
| " Howe (Port Philip) | | | |
| " Joli | Queens | Wharf | June 20, 1888. |
| " Latour | Shelburne | Breakwater | Jan. 17, 1900. |
| " Lorne | Annapolis | 2 breakwaters | June 12, 1888. |
| " Maitland | Yarmouth | 2 " | Jan. 22, 1885. |
| " Malcolm | Richmond | Wharf. | |
| " Medway | Queens. | Protection. | |
| " Mouton | " | Wharf | Jan. 22, 1885. |
| " " S.W | " | Breakwater. | |
| " Philip (see Port Howe) | Cumberland | Wharf | June 19, 1911. |
| " Royal | Richmond | " | |
| " Wade (Victoria Beach) | | | |
| Portugese Cove | Halifax | Skids. | |
| Prospect | " | Wharf. | |
| Pubnico Head | Yarmouth | " | |
| Pudding Pan | Queens | Breakwater. | |
| Pugwash | Cumberland | Wharf. | |
| Quoddy Island | Halifax | " | |
| Rabbit Island | Richmond | Breakwater. | |
| Ragged Pond | Guysborough | Wharf. | |
| Rays Creek | Annapolis | " | Dec. 20, 1907. |
| Red Head (Roseway) | Shelburne | 2 wharfs. | |
| River Bay Beach | " | Protection. | |
| River Hebert | Cumberland | 2 wharfs. | |
| River John | Pictou | Wharf. | |

NOVA SCOTIA.—*Continued.*

| Place. | County. | Work. | Date transferred to Marine and Fisheries. |
|---|---|---|---|
| Ross Ferry (Boularderie) | Victoria | Wharf. | |
| Round Hill | Annapolis | " | |
| Salmon River | Digby | Breakwater | Nov. 29, 1890. June 12, 1888. |
| " (Port Dufferin) | Halifax | Wharf-Breakwater | Feb. 7, 1899. |
| Sambro | " | Wharf. | |
| Sandy Cove | Digby | Breakwater. | |
| Sanford | Yarmouth | " and pier | June 12, 1888. |
| Saulnierville | Digby | " | " " |
| Saw Pit | Lunenburg | Wharf. | |
| Scotch Cove (White Point) | Victoria | Breakwater-Wharf | Nov. 14, 1912. |
| Scotts Bay | Kings | 3 blocks and crib. | |
| Seal Island | Yarmouth | Breakwater. | |
| Seaside | Inverness | Wharf. | |
| Selma | Hants | " | |
| Shag Harbour | Shelburne | " | Aug. 18, 1905. |
| Sheet Harbour | Halifax | 2 wharfs | May 2, 1890. |
| " Passage | " | Wharf. | |
| Shelburne | Shelburne | Wharf and breakwater. | |
| Short Beach | Yarmouth | Breakwater | Jan. 29, 1909. |
| Sight Point | Inverness | Channel. | |
| Skinners Cove | Pictou | Piers and channel | |
| Sluice Point | Yarmouth | Wharf. | |
| Smileys Point | Halifax | Breakwater | |
| Sober Island | " | Wharf | |
| South Cove | Victoria | Breakwater and wharf. | |
| South Gut | " | Wharf | |
| South Lake (Lakevale) | Antigonish | Breakwater | |
| Spanish Ship Bay | Guysborough | Wharf. | |
| Spencer Island | Cumberland | " | March 23, 1911. |
| Spry Bay | Halifax | " | |
| Spry Harbour | " | " | |
| Sterling Brook | Hants | " | |
| Stony Island | Shelburne | Breakwater and protect'n | |
| Summerville | Hants | " | |
| " Centre | Queens | " | |
| Surette Island | Yarmouth | Wharf | |
| Swim Point | Shelburne | " | Jan. 21, 1902. |
| Sydney | Cape Breton | Quay and wharf. | |
| Sydney Mines | " | Wharf | |
| St. Anns Beach | Victoria | Protection | |
| St. Joseph | Inverness | Breakwater. | |
| St. Peters Canal | Richmond | Canal | |
| Tancook (Northwest Cove) | Lunenburg | Wharf | June 12, 1888. |
| Tangier | Halifax | " | |
| Tatamagouche | Colchester | " | |
| Tenecape | Hants | Landing pier | May 22, 1913. |
| The Wharfs | Lunenburg | Breakwater | |
| Three Fathom Harbour | Halifax | Cribwork | |
| Tidnish | Cumberland | Wharf | July 25, 1896. |
| Tiverton | Digby | Breakwater | April 18, 1905. |
| Toney River | Pictou | Protection and channel. | |
| Tracadie | Antigonish | Breakwater pier | June 12, 1888. |
| Trout Cove (Centreville) | Digby | Breakwater | " |
| Tupperville | Annapolis | Wharf | " |
| Tusket Wedge | Yarmouth | " | " |
| Upper Granville (Rays Creek) | | | |
| Upper Port Latour | Shelburne | Wharf | Jan. 17, 1900. |
| Upper Prospect | Halifax | Breakwater | |
| Upper Woods Harbour | Shelburne | Wharf | |
| Victoria Beach (Port Wade) | Annapolis | " | Sept. 3, 1907. |
| " Harbour | Kings | Breakwater | |
| Voglers Cove | Lunenburg | Wharf | |
| Wallace | Cumberland | " | Nov. 30, 1892. |
| Wallace Bridge | " | " | |
| Wallace North (*see* North Wallace) | | | |
| Walton | Hants | Breakwater | |
| " | " | Wharf | Oct. 17, 1905. |
| Washabuck | Victoria | " | Sept. 9, 1905. |

NOVA SCOTIA.—*Concluded.*

| Place. | County. | Work. | Date transferred to Marine and Fisheries. |
|---|---|---|---|
| Watt Settlement | Halifax | Wharf | |
| Wedge Point | Yarmouth | Breakwater | |
| West Advocate | Cumberland | " | |
| " Arichat | Richmond | Pier | June 12, 1888. |
| " " | " | Wharf | June 8, 1909. |
| " Bacarro (Basswood Beach) | Shelburne | Protection | |
| " Bay | Richmond | Wharf | |
| " Berlin | Queens | Protection | |
| " Chezzetcook | Halifax | Breakwater and wharf | |
| Western Head | Queens | Breakwater | |
| " Shore | Lunenburg | Wharf, building | |
| West Head | Shelburne | Breakwater | Jan. 25, 1910. |
| " Jordon Bay | " | Pier | |
| Westport | Digby | Wharf | Feb. 12, 1912. |
| West Port Joli | Queens | Breakwater | |
| " Pubnico | Yarmouth | Wharf | Feb. 13, 1890. |
| " Quoddy | Halifax | " | |
| " River | " | " | |
| " Wood Harbour | Shelburne | " | |
| Weymouth | Digby | Work at bridge. | |
| Whites Cove | " | Breakwater. | |
| White Haven | Guysborough | Canal. | |
| Whitehead | " | Wharf | Aug. 31, 1906. |
| White Point | Queens | Breakwater | June 12, 1888. |
| White Point (South Cove). | | | |
| Whitewater | Kings | Wharf | Feb. 7, 1898. |
| Whitney Pier (Sydney) | Cape Breton | " | |
| Whycocomah | Inverness | " | May 9, 1902. |
| Willow Cove | Queens | Breakwater. | |
| Windsor | Hants | Weir. | |
| Wolfville | Kings | Wharf | Oct. 2, 1901. |
| Wreck Cove | Victoria | Landing | " 2, 1901. |
| Yarmouth | Yarmouth | Protection. | |
| Youngs Landing | Lunenburg | Wharf. | |

PRINCE EDWARD ISLAND.

| | | | |
|---|---|---|---|
| Aitkens Shore | Kings | Pier | Sept. 8, 1902 and Oct. 19, 1909. |
| Annandale | " | " | |
| Bay Fortune | " | Protection work and breakwater. | |
| Bay View | Queens | Pier | Aug. 25, 1885. |
| Belfast (Hallidays) | " | Wharf | " 24, 1888. |
| Belle River | " | Breakwater. | |
| Bonshaw | " | Wharf. | |
| Brae | Prince | Breakwater. | |
| Campbells Cove | Kings | Breakwater-pier | " 24, 1888. |
| Canoe Cove | Queens | " " | |
| Cape Traverse | Prince | Wharf. | |
| Cascumpec | " | " | Not a Govt. work. |
| Chapel Pier | Kings | Pier | Aug. 25, 1885. |
| Charlottetown | Queens | Wharf (M. & F.) | |
| China Point | " | " " | " 24, 1888. |
| Clifton | " | Pier | " 25, 1885. |
| Colville Bay (Souris). | | | |
| Cove Head | " | Protection work. | |
| Cranberry | " | Pier | Jan. 31, 1898. |
| Crapaud (Victoria) | " | " | Aug. 24, 1888. |
| Franklin Point | " | Wharf. | |
| Georgetown | Kings | Pier | " 24, 1888. |
| Gordons Point | Prince | Wharf. | |
| Grand River | " | Pier. | |
| Grahams Pond (Gaspereau) | Kings | Protection. | |
| Greek River | " | Wharf | March 29, 1911. |
| Haggerties | Queens | " | Jan. 31, 1898. |

PRINCE EDWARD ISLAND.—*Concluded.*

| Place. | County. | Work. | Date transferred to Marine and Fisheries. |
|---|---|---|---|
| Hickeys Pier | Queens | Pier | Aug. 24, 1888. |
| Higgins Shore | Prince | " | " 24, 1888. |
| Hurds Point | " | " | " 24, 1888. |
| Kiers Shore | " | " | " 24, 1888. |
| Lambert's Pier | Kings | Pier | Aug. 24, 1888. |
| Lennox Island | Prince | Wharf. | |
| Lewis Point | Kings | Pier | Aug. 24, 1888. |
| Malpeque | Prince | Breakwater. | |
| McGee's Pier | " | Pier | Aug. 24, 1888. |
| McPherson's Cove | Kings | Wharf | Oct. 20, 1908. |
| Miminigash | Prince | Breakwaters. | |
| Mink River | Kings | Pier | Aug. 24, 1888. |
| Montague (Lamberts). | | | |
| Mount Stewart | Queens | Wharf | Dec. 18, 1900. |
| Murray Harbour (South River). | | | |
| Naufrage Pond | Kings | Channel and protection. | |
| New London | Queens | Protection work | |
| Newport (Cardigan). | | | |
| Nine Mile Creek | Queens | Pier | Aug. 24, 1888. |
| North Cardigan | Kings | " | Aug. 24, 1888. |
| North Rustico (Rustico). | | | |
| Panmure Island | Kings | Wharf. | |
| Pinette | Queens | Pier | Aug. 24, 1888. |
| Point Prim | " | Wharf. | |
| Port Hill | Prince | " | |
| Port Selkirk | Queens | Pier | Aug. 24, 1888. |
| Pownal | " | " | Aug. 24, 1888. |
| Red Point | " | " | Jan. 31, 1896. |
| Robinson's Island | " | Breakwater. | |
| Rocky Point | Prince | " | |
| Rustico | Queens | " | |
| Savage Harbour | Kings | Protection. | |
| Skinner Pond | Prince | Channel. | |
| Souris | Kings | Breakwater | Feb. 19, 1884. |
| Southport | Queens | Pier. | |
| South River | Kings | " | Aug. 24, 1888. |
| South Rustico | Queens | " | Aug. 24, 1888. |
| Stephens | Kings | " | Aug. 25, 1885. |
| Sturgeon | " | " | Aug. 25, 1885. |
| Summerside | Prince | Breakwater. | |
| St. Mary's Bay | Kings | Pier | Aug. 24, 1888. |
| St. Peter's Bay | " | Breakwaters. | |
| Tignish | Prince | Breakwater-wharf | Aug. 24, 1888. |
| Tracadie | Queens | " | |
| Vernon River | " | Two wharfs | Aug. 24, 1885. |
| West Point | Prince | Wharf | Aug. 24, 1888. |
| Woods Islands | Queens | Two breakwaters | Aug. 25, 1885. |

## NEW BRUNSWICK.

| | | | |
|---|---|---|---|
| Andersons Hollow | Albert | Breakwater wharf | December 13, 1898. |
| Appleby's Wharf (Riverside) | | | |
| Back Bay | Charlotte | Wharf | |
| Baker Lake | Madawaska | " | |
| Barkers | Sunbury | " | |
| Bathurst | Gloucester | " | August 26, 1903. |
| Bay du Vin | Northumberland | " | Provincial work |
| Bayside | Charlotte | " | |
| Bay Verte | Westmorland | Ballast wharf | |
| Beaver Harbour | Charlotte | Wharf | |
| Belliveau | Westmoreland | " | |
| Berubi | Madawaska | Breakwater | |
| Black Brook | Northumberland | Wharf | |
| Black River | St. John | Breakwater | Febuary 28, 1898 |
| " " | Kent | Wharf | |
| Blue Mount Beach | Victoria | " | |
| Browns Flats | Kings | " | ½ Provincial. |

NEW BRUNSWICK.—*Continued.*

| Place. | County. | Work. | Date transferred to Marine and Fisheries. |
|---|---|---|---|
| Buctouche | Kent | Wharf | August 19, 1885. |
| " Beach | " | 2 breakwaters | |
| Burnt Church | Northumberland | Wharf | August 11, 1903. |
| Burton | Sunbury | " | ½ provincial, tidal |
| Cambellton Ferry | Restigouche | Ferry wharf | July 27, 1903 |
| Campellton | " | Ballast wharf | May 29, 1891. |
| " | " | New wharf | October 1st, 1906. |
| " | " | New extension | September 2nd, 1910. |
| Cape Bald | Westmorland | Breakwater | |
| Cape Tormentine | " | Pier | To Dept. Rys. & Cn'ls. on June 13, 1913. |
| Caraquet | Gloucester | Wharf | August 2nd, 1906. |
| Castalia | Charlotte | Breakwater | |
| Chance Harbour | St. John | " | |
| Chapmans | Victoria | " | |
| Chases Point | Queens | Wharf | March 18, 1909. |
| Chatham | Northumberland | " (Cunards) | |
| " | " | " (Customs) | |
| Chipman | Gloucester | " (Tidal) | ½ Provincial. |
| Chockfish | Kent | Protection work and 2 breakwaters | |
| Clifton (Stonehaven) | Gloucester | Breakwater wharf | November 9, 1894. |
| Cocagne | Kent | Wharf | June 23, 1900. |
| Coles Islands | Queens | " tidal | ½ provincial. |
| Coles Point | Westmorland | " | August 14, 1903. |
| Court House | Sunbury | " " | ½ provincial. |
| Cummings Cove | Charlotte | " | |
| Dalhousie | Restigouche | " & breakwaters | July 10, 1888. |
| Dipper Harbour | St. John | Breakwater | |
| Dorchester (Coles Pt.) | | | |
| Dorchester | Westmorland | 2 wharfs | |
| Douglas Harbour | Queens | Wharf | ½ Provincial. |
| Dover | Westmorland | 2 wharfs | |
| Durham | Restigouche | Breakwater | |
| Edgetts Landing | Albert | Wharf | June 19, 1895. |
| Flaggs Cove | Charlotte | " | |
| Fort Dufferin | St. John | Protection work | |
| Fox Creek | Westmorland | Breakwater wharf | |
| Fredericton | York | Wharf | |
| Gardners Creek | St. John | " | October 14, 1899. |
| Gaunces | Victoria | Breakwater | |
| Gautreau | Westmorland | Wharf | |
| Gerow | Queens | Wharf, tidal | ½ Provincial. |
| Goose Creek | St. John | Protection | |
| Grande Anse | Gloucester | Breakwater | |
| Grand Falls | Victoria | Dam | |
| Grandique | Kent | Wharf | |
| Grays Island | Albert | Breakwater | |
| Grays Point | Kings | Wharf, tidal | ½ Provincial. |
| Great Salmon River | St. John | Breakwater | |
| Grondins | Madawaska | " | |
| Guimonds | " | " | |
| Guirettes | " | " | |
| Harvey Bank | Albert | Wharf | |
| Heron Island | Restigouche | " | Provincial. |
| Herring Cove | Albert | Breakwater. | |
| Hillsboro | " | Pier, breakwater. | |
| Hopewell Cape | " | Wharf, ballast | April 13, 1886. |
| " | " | " | Aug. 8, 1903. |
| Hopewell Hill | " | " | June 29, 1909. |
| Indian Point | Queens | Breakwater. | |
| Iron Bound Cove | " | Wharf. | |
| Iroquois River | Madawaska | Breakwater. | |
| Jemseg (Grand Lake). | | | |
| Kennedy's Flat | Victoria | Breakwater. | |
| Kingston (Rexton). | | | |
| Kouchibougouac | Kent | Dam. | |
| Lameque | Gloucester | Wharf | Nov. 8, 1906. |
| " | " | " (addition) | May 29, 1911. |

NEW BRUNSWICK—*Continued.*

| Place. | County. | Work. | Date transferred to Marine and Fisheries. |
|---|---|---|---|
| Leonardville | Charlotte | Wharf. | |
| L'Etang | " | " | |
| L'Etete | " | " | |
| Lincoln | Sunbury | " | |
| Little Aldouane | Kent | " | Feb. 28, 1911. |
| Little Lameque | Gloucester | " | |
| Little River | | Dam. | |
| Little River Falls | Victoria | Protection pier. | |
| Little River (St. Francois) | | Dam. | |
| Little Salmon River | Albert | Protection work. | |
| Loggieville | Northumberland | Wharf. | |
| Lorneville | St. John | " | |
| Lords Cove | Charlotte | Protection work. | |
| Lower Caraquet | Gloucester | Wharf. | |
| Lower Current | " | " | |
| Lower Jemseg | Queens | " | |
| Lower Lincoln | Sunbury | " | |
| Lower Neguac (Neguac). | | | |
| Lower Newcastle | Northumberland | " | |
| Maces Bay | Charlotte | " | |
| Main River | Kent | " | Aug. 13, 1902. |
| Matthers Island | Kings | Pier. | |
| Maugerville | Sunbury | Wharf. | |
| McAllisters | Queens | " | |
| McGowans | Sunbury | Wharf, tidal | ½ Provincial. |
| Mill Cove | Charlotte | " | |
| Mills Point | Northumberland | " | |
| Miscou | Gloucester | " | Sept, 13, 1910. |
| Mispec | St. John | Breakwaters. | |
| Mizonette | Gloucester | Wharf. | |
| Moncton | Westmorland | " | May 19, 1911. |
| Moss Glen | Kings | " | ½ Provincial. |
| Mud Cove | Albert | Breakwater. | |
| Negro Point | St. John | " | |
| Neguac | Northumberland | Wharf | May 27, 1897. |
| Newcastle | Queens | " tidal | ½ Provincial. |
| New Mills | Restigouche | " | |
| North Head (Flagg's Cove). | | | |
| Oak Point | | " | |
| Oromocto | Sunbury | " tidal | ½ Provincial. |
| " | " | " | May 19, 1905. |
| Partridge Island | St. John | " quarantine. | |
| " | " | " eastern block | May 26, 1905. |
| Petitcodiac (Stoney Creek) | Albert | Pier. | |
| Petit Rocher | Gloucester | Wharf | Aug. 9, 1909. |
| Pink Rock | Westmorland | " | |
| Point du Chene (Shediac) | " | 2 breakwaters | |
| Point Sapin | Kent | Breakwater-wharf. | |
| Point Wolfe | Albert | Protection works. | |
| Quaco | St. John | Breakwater-wharf | June 21, 1892. |
| " (St. Martins) | " | " | |
| Queenstown | Queens | Wharf | ½ Provincial. |
| Ram Pasture Neck (Sackville) | Westmorland | 2 breakwaters. | |
| Rexton, (Kingston) | Kent | Ferry wharf. | |
| Richibucto | " | Wharf. | |
| " Beaches | " | 2 Breakwater | |
| " Cape | " | " | |
| Riley Brook | Victoria | Small breakwater. | |
| Riverside (Appleby's wharf) | Kings | I.C.R. wharf. | |
| Rocher Bay | Albert | Wharf (useless). | |
| Rothsay | Kings | " | |
| Sackville | Westmorland | " tidal. | |
| Scotchtown | Queens | " " | ½ Provincial. |
| Scoville Point | " | " | |
| Seal Cove | Charlotte | Breakwater. | |
| Sewell | York | Wharf, tidal | ½ Provincial. |
| Shediac | Westmorland | " | |
| Shepody River | Albert | Pier. | |
| Shippigan | Gloucester | 2 piers | February 22, 1910. |

NEW BRUNSWICK—*Concluded.*

| Place. | County. | Work. | Date transferred to Marine and Fisheries. |
|---|---|---|---|
| Sisson Flat | Victoria | Breakwater. | |
| Starkeys Pier | Queens | Wharf. | |
| Stoney Creek (Petitcodiac) | | | |
| St. Andrews | Charlotte | " | February 22, 1911. |
| St. George | " | " | |
| St. John | St. John | " Sand Point | December 10, 1910. |
| St. Louis river | Kent | " | |
| St. Louis | " | " | February 15, 1890. |
| St. Martins (Quaco) | | | |
| St. Marys | " | " | December 22, 1896. |
| St. Nicholas | " | " | August 6, 1901. |
| The Range | Queens | " tidal. | |
| Thompsons | " | " " | ½ Provincial. |
| Tobique river | Victoria | 2 small breakwaters. | |
| Tracadie | Albert | Wharf | March 9, 1897. |
| Trout River | Madawaska | Breakwater. | |
| Trynors Cove | Charlotte | Wharf. | |
| Turners | Victoria | Breakwater. | |
| Tweeddales | " | " | |
| Two Rivers | Albert | Wharf | March 30, 1903. |
| Tynemouth | St. John | Breakwaters. | |
| Upper Caraquet | Gloucester | Wharf. | |
| Upper Lincoln | Sunbury | " small. | |
| Upper Maugerville | " | " | |
| Upper Salmon River (Alma) | Albert | Breakwaters. | |
| Vanworts Landing | Kings | Wharf, tidal | ½ Provincial. |
| Vasseur | Madawaska | Small breakwater. | |
| Wapsehegan River | Victoria | 2 breakwaters. | |
| Waters | " | Small breakwater. | |
| Welchpool | Charlotte | Wharf. | |
| Westfields Landing | Kings | Wharf, tidal | ½ Provincial. |
| West Quaco (Quaco West) | | | |
| Whitehead | Kings | Wharf | ½ Provincial. |
| " | Charlotte | " | |
| Wilsons Beach | " | Breakwater. | |
| Woodlands | " | Wharf. | |
| Wrights | Victoria | Breakwater. | |
| Youngs Cove | Queens | Wharfs, tidal | ½ Provincial. |

QUEBEC.

| | | | |
|---|---|---|---|
| Agnes (St. Agnes) | Beauce | Wharf | November 27, 1891. |
| Amherst (Pt. Shea) | Gaspé | Pier | September 6, 1907. February 6, 1913. |
| Angers | Labelle | Wharf | August 9, 1911. |
| Anse a Beaufils | Gaspé | Retaining wall and breakwater. | |
| Anse a Giles | L'Islet | Wharf. | |
| Anse a la Barbe | Bonaventure | Breakwater. | |
| Anse a L'eau | Saguenay | Wharf | July 29, 1895. |
| Anse a L'Islot | Gaspé | " | June 23, 1909. |
| Anse aux Gascons | Bonaventure | " | February 2, 1906. |
| Anse du Portage | Saguenay | Jetty. | |
| Anse St. Jean | " | Wharf | December, 1888. |
| Anse aux Griffond | Gaspé | Channel and training piers. | |
| Anse a la Grosse Roche | Chicoutimi | Wharf. | |
| Ayers Cliff | Stantsead | " | |
| Aylmer | Wright | " | December 4, 1912. |
| Baie des Peres (Ville Marie) | Pontiac | 2 " | November 11, 1896. |
| Baie des Roches | Charlevoix | " | |
| Baie St. Paul | " | Block | December, 1888. |
| Barachois de Malbaie | Gaspé | Training pier. | |
| Bassin | " | Breakwater. | |
| Beauport | Quebec | Wharf | October 19, 1891. |
| Beaupre | Montmorency | " | |
| Becancour | Nicolet | " | |

QUEBEC—*Continued.*

| Place. | County. | Work. | Date transferred to Marine and Fisheries. |
|---|---|---|---|
| Beloeil | Verchères | Guide piers and wharf. | |
| Bergeronnes | Saguenay | Wharf. | |
| Berthier (en bas) | Montmagny | " | April 26, 1895. |
| Berthier (en haut) | Berthier | " | |
| Bic | Rimouski | 2 wharfs | Before 1891 and August 7, 1912. |
| Black Capes | Bonaventure | Small breakwater. | |
| Boisbriand (Chateauguay) | Chateauguay | | |
| Bois Brulé | Gaspé | Breakwater. | |
| Boucherville | Chambly | Breakwater wharf | November 20, 1912. |
| Bonaventure East | Bonaventure | " | |
| Bonaventure River | " | Wharf and training pier. | November 2, 1912. |
| Bryants Landing | Brome | Wharf. | |
| Cabano | Temiscouata | " | |
| Cacouna | " | " | |
| Cannes de Roches | Gaspé | Breakwater. | |
| Cap a l'Aigle | Charlevoix | Wharf | July 13, 1885. |
| Cap Chatte | Gaspé | Breakwater and training pier. | |
| Cap de la Madelaine | Champlain | Wharf | November 23, 1912. |
| Cape Cove | Gaspé | " | |
| Caplan | Bonaventure | Breakwaters. | |
| Cap Santé | Portneuf | Wharf. | |
| Cap St. Ignace | Montmagny | " | |
| Carleton | Bonaventure | " | April 27, 1889. |
| Cascades | Vaudreuil | " | January 28 1887. |
| Caughnawaga | Laprairie | " | |
| Cedars | Soulanges | " | September 16 1896. |
| Cedars | " | " (in canal). | |
| Chambord | Chicoutimi | " | |
| Champlain | Champlain | " | |
| Chauteauguay (Boisbriand) | Chateauguay | " | |
| Chateau Richer | Montmorency | " | May 7, 1912. |
| Chicoutimi | Chicoutimi | " | December, 1888 and March 1, 1912. |
| Chute Monte a Peine | Joliette | " | |
| Clark City (Seven Islands) | Saguenay | " | |
| Colleraine | Megantic | Pier. | |
| Contrecœur | Vercheres | Wharf. | |
| Coteau du Lac | Soulanges | Pier | August 28, 1896. |
| Coteau du Lac | " | Wharf (in canal). | |
| Coteau Landing | Soulanges | Wharf | August 28, 1896. |
| Cote St. Catherine | Laprairie | Ferry wharf | |
| Cross Point | Bonaventure | Wharf | |
| Deschambault | Portneuf | " | |
| Desjardins | Pontiac | " | January 10,1906. |
| D'Israeli | Wolfe | " | |
| Ditchfield | Beauce | " | |
| Doucet's Landing | Nicolet | " | |
| Douglastown | Gaspé | " | |
| East Templeton | Wright | " | August 6, 1909. |
| Escoumains | Saguenay | " | |
| Etang du Nord | Gaspé | Breakwater. | |
| Fabre | Pontiac | Wharf. | |
| Fassett | Labelle | " | May 23, 1912. |
| Father Point | Rimouski | " | |
| Flint's (Three Lakes) | Beauce | " | |
| Fort William | Pontiac | " | |
| Gaspé Basin | Gaspé | " | |
| Garthby (Beaulac) | Wolfe | " | |
| Gatineau | Wright | " | |
| Georgeville | Stanstead | Pier. | |
| Graham | Vaudreuil | Wharf | March 19, 1910. |
| Grande Bergeronnes | Chicoutimi | Improvements. | |
| Grande Decharge | Saguenay | Landing dock. | |
| Grande Entrée | Gaspé | Wharf | October 8, 1910. |
| Grand Mechins (See Mechins) | | | |
| Grand Pabos | Gaspé | Wharf | July 6, 1892. |
| Grande Rivière | " | Pier. | |
| Grande Vallee | " | Improvement and wharf. | |

QUEBEC—*Continued.*

| Place. | County. | Work. | Date transferred to Marine and Fisheries. |
|---|---|---|---|
| Greece Point | Argenteuil | Wharf | May 22, 1902. |
| Grindstone | Gaspé | " | December 7, 1909. |
| Grondines | Portneuf | " | |
| Grosse Isle | Montmagny | Two wharfs (Quar.) | |
| Grosses Roches | Saguenay | Wharfs. | |
| Harrington | " | " | |
| Hopetown | Bonaventure | Breakwater. | |
| House Harbour | Gaspé | Pier. | |
| Hudson | Vaudreuil | Wharf | June 30, 1904. |
| Hull | Wright | " | |
| Iberville | Iberville | " | |
| Ile aux Coudres | Charlevoix | " | |
| Ile aux Grues (Crane Island) | Montmagny | " | December, 1888. |
| Ile Bizard | Jacques Cartier | Pier. | |
| Ile Perrot (North) | Vaudreuil | Wharf | October 6, 1897. |
| Ile Perrot (South) | " | " | July 18, 1910. |
| Ile Verte | Témiscouata | " | |
| Kamouraska | Kamouraska | " | |
| Knowlton Landing | Brome | " | November 11, 1897. |
| Lachine | Jacques Cartier | " | |
| Lacolle | St. Johns | " | May 28, 1886. |
| Lake Labelle | Labelle | Wharfs (3) | |
| Lake Megantic | Beauce | Wharf | July 14, 1887. |
| Lambton | " | " | |
| Lanoraie | Berthier | " | |
| Laprairie | Laprairie | Piers, etc. | |
| L'Anse a la Grosse Roche | Chicoutimi | Wharf. | |
| L'Assomption | L'Assomption | Ice Piers. | |
| La Tuque | St. Maurice | Wharf. | |
| Lavaltrie | Berthier | " | |
| Les Boules (Petit Metis) | Rimouski | " | |
| Les Eboulements | Charlevoix | " | September 4, 1894. |
| Les Ecureuils | Portneuf | " | |
| Les Escoumains | Saguenay | " | |
| Le Tableau (Tableau) | " | " | |
| Levis | Levis | Immigration and deep water wharf. | |
| Limoilou | Quebec | Landing. | |
| L'Islet | L'Islet | Wharf | Dec., 1888. |
| Little Matane | Rimouski | Improvements. | |
| Long Sault | Pontiac | Wharf. | |
| Longueuil | Chambly | " | Feb. 24, 1893. |
| Lotbiniere | Lotbiniere | " | |
| Louisville | Maskinonge | " | |
| Lourdes | Megantic | " | |
| Magog | Stanstead | " | Dec. 7, 1895. |
| Maguasha | Bonaventure | " | Feb. 14, 1913. |
| Maria | " | " | |
| Marie Capé | " | Protection. | |
| Marsouin | Gaspé | Wharf. | |
| Masson | Labelle | " | May 30, 1907. |
| Matane | Rimouski | Pier and 2 breakwaters. | June 3, 1892. |
| Mechins | " | Wharf | Jan. 15, 1913. |
| Mille Vaches | Saguenay | " | |
| Mistassini | Chicoutimi | " | |
| Mistook | " | " | |
| Montebello | Labelle | " | May 23, 1912. |
| Mont Louis | Gaspé | Landing pier. | |
| Montmagny | Montmagny | 2 wharfs | Oct. 24, 1885. |
| Montmagny (Basin) | " | Wharf | Nov. 21, 1912. |
| Montmorency Falls | Quebec | Wall. | |
| Montreal (East) | Hochelaga | Wharf | Dec. 18, 1907. |
| Moose Bay | Compton | " | |
| Murray Bay (Malbaie) | Charlevoix | " | Aug. 15, 1893. |
| Natashquan | Saguenay | " | |
| New Carlisle | Bonaventure | " | Apr. 27, 1889. |
| " West | " | Breakwater (small). | |
| Newport | Gaspé | Piers. | |
| New Richmond | Bonaventure | Landing pier. | |
| Nicolet | Nicolet | Jetty and wharf. | |

QUEBEC.—*Continued.*

| Place. | County. | Work. | Date transferred to Marine and Fisheries. |
|---|---|---|---|
| Nominingue | Labelle | 5 small wharfs. | |
| North Hatley | Stanstead | Wharf. | |
| Norway Bay | Pontiac | " | |
| Notre Dame du Lac (Temiscouata) | Temiscouata | 3 small wharfs. | |
| Notre Dame du Portage | " | Wharf. | |
| Papineauville | Labelle | " | Apr. 16, 1912. |
| Paspebiac | Bonaventure | " | Feb. 22, 1906. |
| " East (Portage) | " | Breakwater. | |
| Peel Head Bay | Missisquoi | Wharf | Dec. 19, 1906. |
| Perce (North Cove) | Gaspé | " | Apr. 11, 1904. |
| Perce | " | Piers | Dec. 6, 1892. |
| Peribonka | Chicoutimi | Wharf. | |
| Perkins Landing | Brome | " | |
| Petit Saguenay | Saguenay | " | |
| Philipsburg | Missisquoi | " | |
| Piche Point | Pontiac | " | |
| Pierreville | Yamaska | " | |
| Piopolis | Compton | " | |
| Pointe a Brousseau | Gaspé | Breakwater and protection. | |
| Pointe a Elie | " | Pier. | |
| Pointe a Pizeau (Sillery) | Quebec | Wharf. | |
| Pointe a Rousseau | Gaspé | " | |
| Pointe a Valois (Valois) | Vaudreuil | " | Oct. 6, 1897. |
| Pointe aux Esquimaux | Saguenay | " | Nov. 24, 1897. |
| Pointe aux Trembles | Portneuf | " | |
| " " (en haut) | Laval | " | Nov. 20, 1912. |
| Pointe Basse | Gaspé | Breakwater. | |
| Pointe Claire | Jacques Cartier | Wharf. | |
| Pointe Fortune | Vaudreuil | Wharf | March 19, 1910. |
| Pointe St. Pierre | Gaspé | Wharf and breakwater. | |
| Port Daniel | Bonaventure | Wharf | April 25, 1889. |
| Port Lewis | Huntington | " | Aug. 30, 1899. |
| Port St. Francis | Nicolet | " | |
| Portneuf | Saguenay | " | |
| Quebec | Quebec | Kings wharf, deep water and hospital wharf | |
| Repentigny | L'Assomption | Wharf. | |
| Richmond | Richmond | Ice piers. | |
| Rigaud | Vaudreuil | 2 wharfs | Sept. 30, 1907. |
| Rimouski | Rimouski | Wharf | June 29, 1894. |
| Riviere a la Pipe | Chicoutimi | " | |
| Riviere aux Vases | " | " | |
| Riviere aux Renards | Gaspé | Breakwater. | |
| Riviere Blanche | Rimouski | Wharf | April 26, 1911. |
| Riviere des Vases | Temiscouata | " | |
| Riviere du Loup | " | " | Sept. 16, 1891. |
| Riviere du Sud | Montmagny | Protection works. | |
| Riviere Girard | Temiscouata | Wharf. | |
| Riviere Godefroy | Nicolet | " | |
| Riviere la Guerre | Huntington | Improvements. | |
| Riviere Noire | Charlevoix | Breakwater. | |
| Riviere Richelieu | Chambly | Ice piers. | |
| Riviere St. Maurice | St. Mauric | Slides, &c. | |
| Riviere Ouelle | Kamouraska | Wharf | Sept. 28, 1892. |
| Riviere Vases | Temiscouata | Pier. | |
| Riviere Verte | " | Landing pier. | |
| Roberval | Chicoutimi | Wharf | Dec. 4, 1912. |
| Ruisseau a Loutre | Rimouski | " | |
| Ruisseau Leblanc | Bonaventure | Wharf and breakwater. | |
| Sabrevois | Iberville | Wharf. | |
| Sault au Cochon | Saguenay | Block. | |
| Sault Montmorency (see Montmorency). | | | |
| Shigawake | Bonaventure | Wharf. | |
| Sorel | Richelieu | 2 wharfs and breakwater (high level) | Nov. 18, 1912. |
| Squateck | Temiscouata | Pier. | |
| Stratford Centre | Wolfe | Wharf. | |

SESSIONAL PAPER No. 19

QUEBEC.—*Continued.*

| Place. | County. | Work. | Date transferred to Marine and Fisheries. |
|---|---|---|---|
| Ste. Adelaide de Pabos | Gaspé | Breakwater. | |
| St. Agnes (See Agnes). | | | |
| St. Alexis | Chicoutimi | Pier. | |
| St. Alphonse | " | Wharf | Dec. —, 1888. |
| St. Andre de Kamouraska (Kamouraska). | | | |
| St. Andrews | Argenteuil | Wharf. | |
| St. Anicet | Huntingdon | " | Aug. 28, 1896. |
| Ste. Anne de Bellevue | Jacques Cartier | " | May, 8, 1908. |
| Ste. Anne de la Parade | Champlain | " | |
| Ste. Anne de la Pocatiere | Kamouraska | " | |
| Ste. Anne des Monts | Gaspé | Training pier and breakwater. | |
| Ste. Anne de Sorel | Richelieu | Wharf. | |
| Ste. Anne du Saguenay | Chicoutimi | " | |
| Ste. Blaise | St. Johns | " | |
| St. Bonaventure | Bonaventure | Pier. | |
| St. Charles Borromée | Chicoutimi | 2 piers. | |
| St. Charles | St. Hyacinthe | Wharf. | |
| Ste. Croix | Lotbiniere | " | |
| St. Denis | St. Hyacinthe | " | Dec. 24, 1912. |
| St. Dominique | Soulanges | " | |
| St. Edouards des Mechins (See Grand Mechins). | | | |
| St. Eloi | Temiscouata | Wharf. | |
| Ste. Emelie | Lotbinie e | " | |
| Ste. Famille | Montmorency | " | |
| St. Felecien | Chicoutimi | " | |
| St. Felicite | Rimouski | Wharf. | |
| St. Fidele | Charlevoix | " | |
| St. Francois de Sales | Laval | " | |
| " du Lac | Yamaska | " | |
| " (Nord) | Montmorency | " | |
| " (South) | " | " | |
| St. Fulgence | Chicoutimi | Block | |
| St. Gedeon | " | Wharf. | |
| " Island | " | " | |
| Ste. Genevieve | Jacques Cartier | " (bridge pier). | |
| St. George de Malbaie | Gaspé | Breakwater | |
| St. Godefroy | Bonaventure | " | |
| St. Hilaire | Rouville | Wharf. | |
| St. Ignace de Loyola | Berthier | " | |
| " (South) | " | " | |
| St. Irenée | Charlevoix | " | May 30, 1891. |
| St. Jean (I.O.) | Montmorency | " | March 9, 1893. |
| " des Chaillons | Lotbiniere | " | |
| " Port Joli | L'Islet | " | May 25, 1896. |
| St. Jerome | Chicoutimi | " | |
| St. Joseph de Letellier | Saguenay | " | |
| " de Sorel | Richelieu | " | |
| St. Lambert | Chambly | " | |
| St. Laurent | Montmorency | " | Aug. 25, 1894. |
| St. Luce | Rimouski | " | |
| St. Marc | Vercheres | " | Oct. 27, 1903. |
| St. Mathias | Rouville | Pier. | |
| Ste. Methode (Ticouabé). | | | |
| St. Michel de Bellechasse | Bellechasse | Wharf. | |
| " de Yamaska | Yamaska | " | |
| St. Nicholas | Levis | " | May 21, 1900. |
| St. Omer | Bonaventure | " | |
| St. Ours | Richelieu | " | |
| St. Paul de L'Ile aux Noix (St. Valentin). | | | |
| St. Paul L'Industrie | Joliette | Wharf. | |
| St. Pierre les Becquets | Nicolet | " | |
| St. Roch des Aulnaies | L'Islet | " | |
| St. Simeon | Charlevoix | " | April 28, 1908 |
| St. Sulpice | L'Assomption | " | |
| St. Timothée | Beauharnois | " | |

QUEBEC—*Concluded.*

| Place. | County. | Work. | Date transferred to Marine and Fisheries. |
|---|---|---|---|
| St. Valentin | St. Johns | Wharf. | |
| St. Valier | Bellechasse | " | |
| St. Victoire | Richelieu | " | |
| St. Zotique | Soulanges | " | |
| Tableau (Le Tableau). | | | |
| Tadousac | Saguenay | Wharf. | |
| Terrebonne | Terrebonne | " | |
| Three Lakes (Flints). | | | |
| Three Rivers | Three Rivers | Wharf and dock. | |
| Ticouabe | Chicoutimi | " | |
| Trois Pistoles | Temiscouata | " | May 10, 1895. |
| " | " | Breakwater. | |
| Valois (Pointe a Valois). | | | |
| Varennes | Vercheres | Wharf | Nov. 20, 1912. |
| Vaudreuil | Vaudreuil | " | March 19, 1910. |
| Vercheres | Chambly & Vercheres | " | Oct. 21, 1904. |
| Verdun | Jacques Cartier | " | |
| Victoria Bay | Compton | " | June 7, 1892. |
| Ville Marie (Baie des Peres). | | | |
| Weedon | Wolfe | Protection works. | |
| Woburn | Beauce | Wharf. | |
| Woodman Beach | Bonaventure | Breakwater (small). | |
| Yamachiche | St. Maurice | Pier. | |

ONTARIO.

| | | | |
|---|---|---|---|
| Amherstburg | Essex | Protection works. | |
| Arnprior | Renfrew | Wharf | May 5, 1911. |
| Barrie | Simcoe | Landing pier. | |
| Barrie (Allandale) | " | Wharf. | |
| Barrys Bay | Renfrew | " | July 7, 1905. |
| Bayfield | Huron | 3 piers. | |
| Baysville | Muskoka | Wharf | June 16, 1906. |
| Beaumarais | " | " | |
| Beaverton | Ontario | Pier and Breakwater. | |
| Belle River | Essex | Protection works. | |
| Bensfort | Northumberland | Wharf. | |
| Bewdley | " | " | |
| Big Bay | Grey | Pier. | |
| Birdsall | Northumberland | Wharf. | |
| Blind River | Algoma | " | Aug. 26, 1903. |
| Bowmanville | Durham | Pier and Breakwater. | |
| Bracebridge | Muskoka | Wharf | June 16, 1906. |
| Brighton | Northumberland | " | Feb. 21, 1913. |
| Brockville | Leeds | " | |
| Bronte | Halton | " | June 30, 1905. |
| Bruce Mines | Algoma | Pier | Aug. 21, 1901. |
| Burks Falls | Parry Sound | Wharf | Oct. 31, 1906. |
| Burleigh Falls | Peterboro | " | |
| Burlington Bay | Wentworth | " | |
| Burlington Channel | " | " and bridge. | |
| Cache Bay | Nipissing | " | |
| Callendar | Parry Sound | " | |
| Cape Croker | Bruce | " | |
| Chantry Island | " | Breakwater. | |
| Charlton | Nipissing | Wharf. | |
| Christian Island | Simcoe | Indian reserve wharf. | |
| Chute a Blondeau | Prescott | Wharf. | May 5, 1909. |
| Cockburn Island | Algoma | " | |
| Cobourg | Northumberland | Breakwater and pier. | Nov. 27, 1912. |
| Colborne | " | Wharf. | |
| Colchester | Essex | " | |
| Coldwater | Simcoe | " | |
| Collingwood | " | 2 breakwaters. | |
| Collingwood | " | Wharf. | |
| Colpoys Bay | Bruce | Wharf and pier. | |
| Cornwall | Stormont | Wharf. | |

SESSIONAL PAPER No. 19

ONTARIO.—*Continued.*

| Place. | County. | Work. | Date transferred to Marine and Fisheries. |
|---|---|---|---|
| Crowes Landing | Peterboro | Wharf. | |
| Cumberland | Russell | " | |
| Curtis Landing | Northumberland | " | |
| Dawsons Point | Nipissing | Block. | |
| Depot Harbour | Muskoka | Wharf | April 20, 1907. |
| Desbarats | Algoma | " | |
| Dryden | Rainy River | " | |
| Dunnets Landing | Northumberland | " | |
| Dyers Bay | Bruce | " | |
| Echo Bay | Algoma | " | Sept. 22, 1905. |
| Elk Lake | Nipissing | " | |
| Fort William | Thunder Bay | Quay wall. | |
| Goderich | Huron | 2 piers and breakwater | April 22, 1876. |
| Gores Landing | Northumberland | Wharf | Not Gov't. property. |
| Grand Bend | Lambton | " | |
| Grahams Bay | Carleton | Protection works. | |
| Gravenhurst | Muskoka | Wharf. | |
| Griffiths Island | Bruce | " | |
| Haileybury | Nipissing | " and shipyard. | May 29, 1906. |
| Hamilton | Wentworth | Revetment. | March 10, 1913. |
| Harwood | Northumberland | Wharf. | |
| Hawkstone | Simcoe | " | |
| Hiawatha | Peterborough | " Indian reserve. | |
| Hilton (Markvale) | Algoma | " | May 9, 1898. |
| Holland River | Simcoe | " | |
| Honora Bay | Algoma | Wharf | Aug. 12, 1905. |
| Huntsville | Parry Sound | " | June 16, 1906. |
| Inverhuron | Bruce | Pier | |
| Jeannette's Creek | Kent | Wharf | |
| Juniper Island | Peterboro | " | |
| Kearney | Parry Sound | " | |
| Kempenfeldt Bay | Simcoe | " | |
| Kenora | Rainy River | " | |
| Kincardine | Bruce | 2 jetties | |
| Kingsville | Essex | Pier | Feb. 21, 1885. |
| Lakefield | Peterboro | Wharf | |
| Lakeport | Northumberland | " | June 18, 1912. |
| Lancaster (South Lancaster) | | | |
| La Passe | Renfrew | Wharf | |
| Latchford | Nipissing | Dam | |
| Leamington | Essex | Pier | April 7, 1902. |
| Lion's Head | Bruce | Breakwater | July 16, 1904. |
| L'Orignal | Prescott | Wharf | Nov. 7, 1903. |
| Magnetawan | Parry Sound | " | Feb. 22, 1910. |
| Malloreytown | Leeds | " | |
| Markvale (Hilton) | | | |
| Massey | Algoma | Wharf | |
| Mattawa | Nipissing | " | |
| Meaford | Grey | 2 piers | |
| " | " | Breakwater | |
| Michipicoten | Algoma | Wharf | |
| Midland | Simcoe | Piling and wharf | July 21, 1905. |
| Monetville | Nipissing | Wharf | |
| Morpeth | Elgin | Pier | March 11, 1895. |
| Mount Julian | Peterboro | Wharf (small) | |
| McCracken's Landing | " | Pier | |
| Newcastle | Durham | 2 piers (trust) | |
| New Liskeard | Nipissing | Wharf | |
| Nipissing | " | " | |
| North Bay | " | " | Dec. 16, 1899. |
| " | " | Breakwater | |
| Oakville | Halton | 2 piers | |
| Oliphant | Bruce | Wharf | |
| Orillia | Simcoe | " | |
| Oshawa | Ontario | Pier | Jan. 19, 1904. |
| Otonabee River | Peterboro | " | |
| Owen Sound | Grey | Pier and protection | Nov. 18, 1882. |
| Oxenden | " | Pier | |
| Parry Sound | Parry Sound | Wharf | |
| Pelee Island (Point Pelee) | | | |

ONTARIO.—*Continued.*

| Place. | County. | Work. | Date transferred to Marine and Fisheries. |
|---|---|---|---|
| Pembroke | Renfrew | Wharf | Sept. 7, 1905. |
| Penitanguishene | Simcoe | " | (Not Government). |
| Peterboro | Peterboro | " | Aug. 7, 1909. |
| Petawawa | Renfrew | " | |
| Pickering (Frenchman's Bay) | Ontario | Piers | |
| Pike Creek | Essex | Protection | |
| Point Pelee (Pelee Island) | " | Wharf | Aug. 18, 1903. |
| Point Pelee | " | (Scudder) wharf | June 28, 1909. |
| Porcupine | Nipissing | Wharf | |
| Port Albert | Huron | Piers | |
| " Arthur | Algoma | Wharf and breakwaters | |
| " Bruce | Elgin | 2 piers | |
| " Burwell | " | Pier and breakwater | |
| " Colborne | Welland | " " | |
| " Dover | Norfolk | 2 piers | |
| " Elgin | Bruce | Breakwater | |
| " Finlay | Algoma | Wharf | April 25, 1902. |
| " Hope | Durham | Pier | |
| " Rowan | Norfolk | " | April 9, 1898. |
| " Stanley | Elgin | 2 piers and breakwater | |
| Providence Bay | Algoma | Pier | May 26, 1905. |
| Rainy River | Algoma | Dam, etc. | |
| Rama | Ontario | Wharf. | |
| Red Bay | Bruce | " | |
| Richards Landing | Algoma | " | Feb. 25, 1899. |
| Riviere aux Puces | Essex | Protection works. | |
| Riviere aux Sables | Bruce | Checkwater pier. | |
| River Thames | Kent | Lighthouse wharf. | |
| Robbins Landing | Northumberland | Wharf. | |
| Roches Point | York | " | |
| Rondeau | Kent | 2 piers and breakwater | Dec. 17, 1888. |
| Rosedale | Victoria | Wharf. | |
| Rosseau | Muskoka | " | June 19, 1907. |
| Rossport | Algoma | " | Jan. 20, 1908. |
| Sand Point | Renfrew | " | |
| Saugeen River | Bruce | 2 piers. | |
| Sault St. Marie | Algoma | Wharf | Nov. 21, 1889. |
| Seagull | " | " | |
| Severn Bridge | Simcoe | " | |
| Severn River | Ontario | Dams. | |
| Sheguindah | Algoma | Pier | May 17, 1902. |
| Shrewsbury | Kent | Wharf. | |
| Silver Centre | Nipissing | " | June 21, 1910. |
| Silverwater | Algoma | " | Aug. 8, 1907. |
| Southampton | Bruce | 3 piers and breakwater | June 21, 1888. |
| South Lancaster | Glengarry | Wharf | Oct. 13, 1905. |
| South Porcupine | Nipissing | " | |
| Stanley Island | Glengarry | " | |
| Stokes Bay | Bruce | " | |
| Sturgeon Falls | Nipissing | " | |
| St. Joseph | Huron | " | |
| St. Josephs Island | Algoma | " (3) | |
| St. Williams | Norfolk | " | |
| Summerstown | Glengarry | " | March 12, 1890. |
| Sunbridge | Parry Sound | " | |
| Tenby Bay | Algoma | " | |
| Thames River | Kent | " | Sept. 24, 1909. |
| Thessalon | Algoma | " | Dec., 1895. |
| Thorah Island | Ontario | " | |
| Thornbury | Grey | Pier and breakwater. | |
| Tobermoray | Bruce | Glance booms. | |
| Tolsma Bay | Algoma | Wharf and pier. | |
| Toronto | York | Protection. | |
| Treadwell | Prescott | Wharf | May 5, 1909. |
| Wabigoon | Algoma | " | |
| Wendover | Prescott | " | Dec. 15, 1906. |
| Wheatley | Kent | " | March 23, 1912. |
| Whitby | Ontario | 2 piers. | |
| White Cloud Island | Grey | Wharf. | |

ONTARIO—*Concluded.*

| Place. | County. | Work. | Date transferred to Marine and Fisheries. |
|---|---|---|---|
| Wiarton | Bruce | Wharf, pier and b.water. | Nov. 21, 1890. |
| Wilsons Rock | Algoma | Block. | |
| Windermere | Muskoka | Wharf. | |
| Windsor | Essex | Dock. | |

MANITOBA.

| | | | |
|---|---|---|---|
| Arnes | Selkirk | Wharf. | |
| Delta | Macdonald | Protection. | |
| Gimli | Selkirk | Wharf. | |
| Gull Harbour | " | " | |
| Hnausa | " | " | |
| Icelandic River | " | " | |
| Pelican Lake | Souris | " | |
| Selkirk | Selkirk | " | Oct. 29, 1904. |
| St. Andrews Rapids | " | Lock and dam. | |
| St. Laurent | " | Wharf. | |
| Victoria Beach | " | " | |
| Winnipeg Beach | " | " | |

SASKATCHEWAN.

| | | | |
|---|---|---|---|
| Last Mountain Lake | Regina | Lock and dam. | |
| Prince Albert | Saskatchewan | Wharf. | |

ALBERTA.

| | | | |
|---|---|---|---|
| Edmonton | Edmonton | Wharf. | |

BRITISH COLUMBIA.

| | | | |
|---|---|---|---|
| Alberni | Comox-Atlin | Wharf. | |
| Alice Arm | " | " | |
| Arrow Park | Kootenay | " | |
| Athalmar | " | " | |
| Bamfield Creek | Comox-Atlin | " | |
| Boswell | Kootenay | " | |
| Brisco | " | " | |
| Brownsville | New Westminster. | " | |
| Burton City | Kootenay. | " | |
| Campbell River | Comox-Atlin | " | |
| Celista | Yale-Cariboo | " | |
| Chase | " | " | |
| Chilliwack | New Westminster | " | |
| Clayoquot (Tofino) | Comox-Atlin | " | |
| Comaplix | Kootenay | " | |
| Deer Park | " | " | |
| Dewdney | New Westminster | " | |
| Donatellis | " | " | |
| East Haney | " | " | |
| Glenn Valley | " | " | |
| Golden | Kootenay | " | |
| Goose Bay | Comox-Atlin | " | |
| Gowland Harbour | New Westminster | Float. | |
| Gordons Road | " | Wharf | |
| Greens Landing | " | " | |
| Hardy Bay | Comox-Atlin | " | |
| Harriston River | New Westminster | Dam. | |
| Harrup | Kootenay | Wharf. | |

BRITISH COLUMBIA.—*Concluded.*

| Place. | County. | Work. | Date transferred to Marine and Fisheries. |
|---|---|---|---|
| Hatzic | New Westminster... | Wharf. | |
| Holberg | Comox-Atlin | " (building) | |
| Hollyburn | South Vancouver | " | |
| Kamloops | Yale Cariboo | " | |
| Kinkolith | Comox-Atlin. | " | |
| Kokanee | Kootenay. | " | |
| Ladner | New Westminster... | " | |
| Ladysmith | Nanaimo | " | Nov. 29, 1905. |
| Langley | New Westminster,. | " | Nov. 24, 1910. |
| Masset | Comox-Atlin | Wharf (2) | Oct. 30, 1912. |
| Matsqui | New Westminster... | " | |
| McAdams Landing | " | " | |
| McIvors Landing | " | " | |
| Metchosin | Nanaimo | " | |
| Mill Bay | " | " | |
| Mirror Lake | Kootenay | " | |
| Mission City | New Westminster... | " | |
| Mount Lehman | " | " | |
| Murphys Landing | " | " | |
| Nanaimo | Nanaimo | " | |
| New Westminster | New Westminster... | " | |
| Okanagan River | Yale-Cariboo,, | Protection work. | |
| Pitt River | New Westminster... | Wharf. | |
| Porcher Island | Comox-Atlin | " | |
| Port Hammond | New Westminster... | " | |
| Port Haney | " | " | |
| Port Kells | " | " | |
| Port Moody | " | " | |
| Powell River | Comox-Atlin | Dam. | |
| Prince Rupert | " | Wharf. | |
| Proctor | Kootenay | " | |
| Quatsino | Comox-Atlin | " | |
| Queen Charlotte City | " | " | |
| Queen Bay | Kootenay | " | |
| Refuge Bay | Comox-Atlin | " | |
| Revelstoke | Kootenay | " | |
| Riverside | New Westminster... | " | |
| Rosedale | " | " | |
| St. James Island | Nanaimo | " | |
| Salmon Arm | Yale-Cariboo | " | |
| Savary Island | Comox-Atlin | " | |
| Shushartie Bay | Comox-Atlin | " | |
| Shutty Beach | Kootenay | " | |
| Sicamous | Yale-Cariboo | " | |
| Sidney | Nanaimo | " | Nov. 30, 1913. |
| Skidegate | Comox-Atlin | " | |
| Smiths Landing | " | " | |
| Sorrento | Yale-Cariboo | " | |
| Stevestons | New Westminster... | " | |
| Stewart | Comox-Atlin | " | May 6, 1909. |
| Sumas | New Westminster... | " | |
| Sunshine Bay | Kootenay | " | |
| Surf Inlet | Comox-Atlin | " | |
| Tofino (Clayoquot) | | | |
| Tucker Bay | Comox. Atlin | " | |
| Union Bay | " | " | |
| Whonnock | New Westminster... | " | |
| Williams Head | Nanaimo | " (Quar.) | |
| Wilmer | Kootenay | " | |
| Woods and Long Lake | Yale-Cariboo | Canal. | |

## CONCLUSION.

During the past year, the work of this branch of the service has increased enormously, as exemplified in the foregoing report.

Last year, 1913, the expenditure amounted to $10,177,831.45, as compared with $8,558,867.39 in 1912.

As usual, the works entrusted to the officers under my control have been executed with great zeal and ability, and I take pleasure in complimenting all my assistants, including those at headquarters, for the able manner in which they have performed their duties.

EUGENE D. LAFLEUR,

*Chief Engineer.*

# PART V

# REPORT ON GOVERNMENT TELEGRAPH LINES

FOR THE

## FISCAL YEAR ENDED MARCH 31, 1913

DEPARTMENT OF PUBLIC WORKS,
OFFICE OF THE GENERAL SUPERINTENDENT,
OTTAWA, ONT., October 20, 1913.

R. C. DESROCHERS, Esq.,
Secretary, Department of Public Works.

SIR,—I beg to submit herewith my report on the Government Telegraph Service for the fiscal year ended March 31, 1913.

This report, as usual, is prefaced by a list to the present date of the land lines and cables in operation; with data of lengths, year of construction, number of offices at present established, and an estimate of the traffic handled in each instance.

The usual tabular statement giving list of offices, operating staff, &c., in the several districts are appended to the report; likewise the tariff sheets, showing the rates charged for messages on the several lines.

I have the honour to be, sir,
Your obedient servant,

D. H. KEELEY,
*General Superintendent.*

# THE GOVERNMENT TELEGRAPH SERVICE

## DOMINION OF CANADA

### HEAD OFFICE: DEPARTMENT OF PUBLIC WORKS, OTTAWA.

(March 31, 1913.)

EXECUTIVE.

The Hon. R. Rogers, Minister of Public Works.
J. B. Hunter, Esq., Deputy Minister of Public Works.

STAFF AT HEADQUARTERS.

D. H. Keeley, General Superintendent.
M. W. Crean, Technical Assistant to General Superintendent.
J. E. Gobeil, Technical Assistant to General Superintendent.
Miss E. D. McClosky, Secretary to General Superintendent.
Miss A. Ranger, Assistant Secretary to General Superintendent.
P. G. Burgess, Accountant Telegraph Branch.
J. E. Bray, Assistant Accountant Telegraph Branch.

GENERAL INSPECTORS.

A. B. McDonald, North Sydney, Cape Breton, lines in Nova Scotia and New Brunswick.
J. S. Macdonald, Edmonton, Alta., lines in Northwest and British Columbia south.

SUPERINTENDENCIES.

Edwin Pope, Quebec, supt., North Shore and G.N.W. traffic.
E. H. Tetu, Long Point of Mingan, dist. supt., North Shore, East Bersimis.
J. P. Pouliot, dist. supt., Quarantine line, &c., to Grosse Isle.
A. Malouin, dist. supt., West Point, Anticosti Island.
A. Le Bourdais, Grindstone, dist. supt., Magdalen Islands.
J. Dumulon, Ville Marie, P.Q., local supt., Timiskaming District.
D. C. Dawson, St. John, N.B., dist. supt., Cape Breton system.
J. B. Parker, Grand Manan, N.B., dist. supt., Bay of Fundy system.
J. McR. Selkirk, Leamington, Ont., dist. supt., Pelee Island system.
Robt. C. Macdonald, Edmonton, Alta., dist supt., Northwest Territories.
Wm. Henderson, Victoria, dist. supt., British Columbia, south.
L. A. Palmer, Kamloops, B.C., supt., Penticton line.
J. T. Phelan, Vancouver, B.C., supt., Yukon system.
H. Gilchen, Whitehorse, Y.T., dist. supt., Atlin-Boundary.

## GOVERNMENT TELEGRAPH SERVICE.

| Location of Lines. | Points connected. | Year. | Length of Lines. | | | Number of Offices. | Messages Sent. |
|---|---|---|---|---|---|---|---|
| | | | Land Lines. | Cables. | Total. | | |
| | | | Miles Wire. | Kt's. | | | |
| Newfoundland.. | Port au Basque –Cape Ray | 1883 | 14 | ... | 14 | 2 | |
| Nova Scotia .... | North Sydney—Meat Cove (with loops).. | 1880–02 | 165½ | ..... | | | |
| .. .. | Across Bras d'Or Channel | 1880 | ..... | ½ | | | |
| .. .. | " St. Anns Harbour (Englishtown). | 1887 | ..... | ¼ | 166¾ | 23 | |
| .. .. | " Ingonish Harbour | 1887 | ..... | ¼ | | | |
| .. .. | French River | ..... | ..... | ..... | | | |
| .. .. | Big Bras d'Or—Kempt Head | 1904 | 20 | ..... | 20 | 3 | |
| .. .. | Meat Cove—St. Pauls Island | 1890 | ..... | 20 | | | |
| .. .. | On St. Pauls Island | 1890 | 3 | ..... | 23 | 1 | |
| .. .. | Bay St. Lawrence to Money Point | 1907 | 8 | ..... | 8 | 4 | |
| .. .. | Mabou—Meat Cove | 1887–00 | 109 | ..... | 109 | 12 | |
| .. .. | Barrington—Cap Sable | 1883 | 16 | ..... | | | |
| .. .. | Across Bear Point Channel | 1883 | ..... | 1½ | 17¾ | Leased. | |
| .. .. | " Lt. House Channel | 1883 | ..... | ¼ | | | |
| .. .. | Mabou—Port Hawkesbury | 1903 | 41¾ | ..... | 73¾ | 7 | |
| .. .. | Port Hawkesbury—St. Peters | 1903 | 32 | ..... | | | |
| .. .. | St. Peters—Main-à-Dieu | 1904 | 84¼ | ..... | | | |
| .. .. | Main-à Dieu—Scatari | 1902–09 | 1 | 3½ | 131½ | 17 | |
| .. .. | On Scatari Island | 1904 | 7¼ | ..... | | | |
| .. .. | Gabarous—North Sydney | 1904 | 35½ | ..... | | | |
| .. .. | Little Bras d'Or—Kempt Head | 1905 | 36 | ..... | 36 | 6 | |
| .. .. | North Sydney—Eskasoni | 1905 | 37 | .. | 37 | 10 | |
| .. .. | Castle Bay—Grand Narrows | 1908 | 16 | ..... | 16 | | |
| .. .. | Grand Narrows—Shenacadie | 1910 | 8 | ..... | 8 | | |
| .. .. | Leitches Creek—Steeles Crossing (loop).. | 1910 | 28 | ... | 28 | | |
| .. .. | Baddeck—Little Narrows | 1910 | 19½ | ... | 19½ | | |
| .. .. | North Sydney—Little Bras d'Or (second wire) | 1906 | 6 | ..... | 6 | | 16,311 |
| .. .. | Grand River–Enon | 1907 | 19½ | ..... | 19½ | 2 | |
| .. .. | Enon—Gabarous | 1909 | 31 | ..... | 31 | 2 | |
| .. .. | Strathlorne—Wycocomagh | 1909 | 33½ | .. | 33½ | 5 | |
| .. .. | N. E. Margaree—Big Intervale | 1912 | 10 | ..... | 10 | | |
| .. .. | S. W. Margaree—South Ainsley | 1912 | 23 | ..... | 23 | | |
| .. .. | Whycocomagh—Little Narrows | 1912 | 8½ | ..... | 8½ | | |
| .. .. | Loop, Lake Ainsley to Hayes River | 1912 | 3 | ..... | 3 | 1 | |
| .. .. | Loch Ban Scottsville | 1912 | 7 | ..... | 7 | | |
| .. .. | Whycocomagh—Orangedale | 1912 | 8 | ... | 8 | | |
| .. .. | S. L. Ainsley—Whycocomagh | 1912 | 7 | ..... | 7 | | |
| .. .. | North Sydney—Sydney Mines—Florence | 1912 | 7 | ... | 7 | | |
| .. .. | Little Narrows—Washabuck | 1912 | 12 | ..... | 12 | | |
| .. .. | Loop, Eskasoni—McAdams Lake | 1912 | 5 | ..... | 5 | | |
| .. .. | Grand Narrows—Lower Shenacadie | 1912 | 7 | ..... | 7 | | |
| | *Port Hood, Island Branch :* | | | | | | |
| | (Length of construction in loop.) | | | | | | |
| .. .. | On mainland at Port Hood | 1907 | ½ | ... | | | |
| .. .. | Port Hood—Smith Island | 1907 | ..... | 2 | | | |
| .. .. | On Smiths or Inner Island | 1907 | 4 | ..... | 13½ | 4 | |
| .. .. | Smiths Island to Henry Island | 1907 | ..... | 3 | | | |
| .. .. | On Henry or Outer Island | 1907 | 4 | ..... | | | |
| New Brunswick. | Chatham—Escuminac | 1885 | 42¼ | ..... | 42¼ | 6 | 939 |
| | Carried forward | ..... | 920 | 31½ | 951½ | 105 | 17,250 |

SESSIONAL PAPER No. 19

## GOVERNMENT TELEGRAPH SERVICE—*Continued.*

| Location of Lines. | Points connected. | Year. | Length of Lines. | | | Number of Offices. | Messages Sent. |
|---|---|---|---|---|---|---|---|
| | | | Land Lines. | Cables. | Total. | | |
| | | | Miles Wire. | Kt's. | | | |
| | Brought forward | | 920 | 31½ | 951½ | 105 | 17,250 |
| | *Bay of Fundy System :* | | | | | | |
| New Brunswick. | Eastport—Campobello | 1880 | | 1¾ | | | |
| " | On mainland Eastport | 1880 | ½ | | | | |
| " | On Campobello Island | 1880 | 7½ | | | | |
| " | Campobello—Grand Manan | 1880 | | 7¼ | | | |
| " | On Grand Manan Island | 1880 | 25¼ | | 45¾ | 12 | 583 |
| " | Grand Harbour—Cheneys Island | 1890 | | ½ | | | |
| " | On Cheneys Island | 1890 | ¾ | | | | |
| " | Cheneys Island—Whitehead Island | 1890 | | ¾ | | | |
| " | Partridge Island—Fort Dufferin | 1900 | | ¾ | | | |
| " | " " | 1910 | | ¼ | | | |
| | *Gannet Rock Branch :* | | | | | | |
| " | Seal Cove—Big Wood Island | 1910 | ¼ | 1½ | | | |
| " | On Big Wood Island | 1910 | 1½ | | | | |
| " | Big Wood Island—Little Wood Island | 1910 | | ½ | 11¼ | 3 | † |
| " | On Little Wood Island | 1910 | ¼ | | | | |
| " | Little Wood Island—Gannet Rock | 1910 | | 7¼ | | | |
| | *Magdalen Island System :* | | | | | | |
| Quebec | Meat Cove, C.B.—Magdalen Islands | 1880 | | 55 | | | |
| " | On Magdalen Island | 1881-02 | 83½ | ½ | | | |
| " | Grosse Isle—Brion Island | 1902 | | 11 | | | |
| " | On Brion Island to Dingwalls | 1902 | 1 | | | | |
| " | On Brion Dingwalls to Lt. House | 1909 | 5 | | 184¾ | 18 | 2,650 |
| " | House Harbour—Pointe Basse (loop wire) | 1902 | 8 | | | | |
| " | Pointe Basse—South Beach (loop wire) | 1905 | 6 | | | | |
| " | Grindstone—Barachois (loop wire) | 1909 | 6 | | | | |
| " | Amherst Island—Entry Island | 1910 | 2 | 6¾ | | | |
| | *Anticosti System :* | | | | | | |
| " | Gaspé—L'Anse à Fougère | 1881 | 28 | | | | |
| " | L'Anse à Fougère—Anticosti | 1881 | | 44¼ | 316½ | 9 | 3,174 |
| " | On Anticosti Island | 1881-90 | 223¼ | | | | |
| " | Anticosti—Long Point Mingan | 1890 | | 21 | | | |
| | *Chicoutimi Dist.:* | | | | | | |
| " | Bay St. Paul—Chicoutimi | 1881-04 | 98 | | 98 | 5 | |
| " | St. Alexis—St. Catherines Bay | 1904 | 78 | | 78 | 5 | |
| " | Murray Bay—Bay St. Paul | 1904 | 32½ | | 32½ | 2 | |
| " | Bay St. Paul—Petite River | 1904 | 13 | | 13 | 1 | |
| " | Chicoutimi—St. Charles | 1903 | 31½ | | 46½ | 10 | |
| " | St. Anne—Lac Claire | 1903 | 7 | | | | |
| " | St. Anne—St. Fulgence | 1903 | 8 | | | | |
| " | St. Fulgence—Sacré-Cœur | 1905 | 73½ | | 73½ | 4 | |
| " | Murray Bay—St. Catherines Bay (2 wire) | 1904 | 53 | | 53 | | |
| " | St. Alexis—Chicoutimi (2nd wire) | 1905 | 14½ | | 14½ | | |
| | Carried forward | | 1,727¾ | 191 | 1,918¾ | 174 | 23,657 |

† Included in Bay of Fundy System.

## GOVERNMENT TELEGRAPH SERVICE—*Continued.*

| Location of Lines. | Points connected. | Year. | Length of Lines. | | | Number of Offices. | Messages Sent. |
|---|---|---|---|---|---|---|---|
| | | | Land Lines. | Cables. | Total. | | |
| | | | Miles Wire. | Kt's. | | | |
| | Brought forward | | 1,727¾ | 191 | 1,918¾ | 174 | 23,657 |
| | *Chicoutimi Dists*—Con. | | | | | | |
| Quebec | St. Charles—La Pipe | 1907 | 30 | | 30 | 4 | 33,609 |
| " | La Pipe—Peribonka | 1908 | 17 | | 17 | 2 | |
| " | Bay St. Paul—St. Placide | 1908 | 8½ | | 8½ | 1 | |
| " | Tache St. Louis de Nazaire Loop | 1912 | 5 | | 5 | 1 | |
| | *North Shore Line:* | | | | | | |
| " | Murray Bay—Chateau Bay (Tadousac) | 1881-01 | 947¾ | | 949½ | 69 | |
| " | Across Saguenay River at Tadousac | 1883 | | 1¼ | | | |
| " | " " " " | 1909 | | 1 | | | |
| " | Chateau Bay—Belle Isle* | 1901 | | | | | |
| " | Bersimis—Godbout | 1904-05 | 114 | | 114 | | |
| " | St. Simeon to Cap Salmon Lt. (loop wire) | 1909 | 4 | | 4 | 1 | |
| " | Harrington—Harrington Island | 1909 | 1¼ | 3¾ | 4½ | 1 | |
| | *Quarantine System:* | | | | | | |
| " | Quebec—L'Ange Gardien | 1885 | 13 | | | | |
| " | L'Ange Gardien—Orleans Island | 1885 | | | | | |
| " | " 3 lengths | 1906-09 | | 2¼ | | | |
| " | On Orleans Island | 1885 | 29¼ | | | | |
| " | Orleans Island—Isle Reaux | 1889 | | 2 | | | |
| " | " (2nd cable) | 1910 | | 2¾ | | | |
| " | On Isle Reaux | 1889 | 2½ | | 80¼ | 11 | 1,146 |
| " | Isle Reaux—Grosse Isle | 1889 | | 2 | | | |
| " | " " (2nd cable) | 1910 | | 2 | | | |
| " | On Grosse Isle (all told) | 1885-94 | 3¼ | | | | |
| " | St. Jean—Ste. Famille (loop) | 1904 | 11 | | | | |
| " | St. François—St. François Nord (looped wire) | | 10 | | | | |
| " | St. François—Baie St. Paul* | 1906 | | | | | |
| " | Crane Island to Montmagny | 1905-09 | | 5 | 5 | 5 | |
| " | On Crane Island | 1905 | 3 | | 3 | | |
| " | Crane Island to Grosse Isle | 1907 | | 5 | 5 | | |
| " | Beauport—Laval | 1909 | 15 | | 15 | 4 | 1,301 |
| " | Orleans Island Telephone System | 1910 | 68 | | 68 | 7 | 8,346 |
| " | Kippewa Dam—Ville Marie | 1910 | 33½ | | 78½ | 9 | 810 |
| " | Ville Marie—North Timiskaming | 1911 | 45 | | | | |
| " | St. Isidore Branch | 1912 | 3½ | | 3½ | 1 | |
| | *Pelee Island System:* | | | | | | |
| Ontario | Leamington—Point Pelee | 1889 | 12 | | 45¾ | 18 | 1,257 |
| " | Leamington Dock—Pelee Island | 1901 | | 17¼ | | | |
| " | On Pelee Island | 1889-00 | 16½ | | | | |
| | *Northwest Lines:* | | | | | | |
| North-West | Qu'Appelle—Edmonton | 1883 | 593½ | | 593½ | 16 | |
| " | St-Paul—Durlingville | 1912 | 48 | | 48 | 2 | |
| " | Edmonton—Athabaska Landing | 1904 | 98 | | 98 | 2 | |
| " | Athabaska Landing—Mirror Landing | 1909 | 70 | | 70 | 1 | |
| | Carried forward | | 3,929¾ | 235 | 4,364¾ | 329 | 70,126 |

* This cable (Chateau Bay—Belle Isle) 22¼ knots, was withdrawn in 1909.

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## GOVERNMENT TELEGRAPH SERVICE—*Continued.*

| Location of Lines. | Points connected. | Year. | Length of Lines. | | | Number of Offices. | Messages Sent. |
|---|---|---|---|---|---|---|---|
| | | | Land Lines. | Cables. | Total. | | |
| | | | Miles Wire. | Kt's. | | | |
| | Brought forward | | 3,929¾ | 235 | 4,364¾ | 329 | 70,126 |
| North-West | Mirror Landing—Peace River | 1910 | 199 | | 199 | 3 | |
| " | Peace River—Dunvegan | 1911 | 74 | | 74 | 2 | |
| " | Dunvegan—Lake Saskatoon | 1912 | 76 | | 76 | 2 | |
| " | Grand Prairie City Loop | 1912 | 16 | | 16 | 1 | |
| " | Peace River—Shaftsbury | 1911 | 15 | | 15 | 3 | |
| " | Moosejaw—Wood Mountain | 1885 | 107 | | 107 | 4 | |
| " | Wood Mountain—Willow Bunch | 1904 | 39 | | 39 | 2 | |
| " | Gravelburg Loop | 1910 | 38 | | 38 | 1 | |
| " | Leeville Loop | 1912 | 28 | | 28 | 1 | |
| " | Saskatoon Loop | 1892 | 28 | | 28 | 1 | 69,403 |
| " | Edmonton—Indian Agency—Stony Plain | 1904 | 32 | | 32 | 5 | |
| " | Edmonton—St. Albert | 1887 | 9 | | 9 | 1 | |
| " | St. Albert—Qui Barre—Alexandre | 1902 | 25 | | 25 | 3 | |
| " | Duck Lake—Batoche | 1902–10 | 9 | | 9 | 2 | |
| " | Duck Lake Indian Agency | 1902 | 3½ | | 3½ | 3 | |
| " | Lloydminster Loop | 1904–09 | 58 | | 58 | 1 | |
| " | Andrew Loop | 1904 | 10 | | 10 | 1 | |
| " | Andrew—Whitford | 1905 | 7 | | 7 | 1 | |
| " | Lamont Loop | 1910 | 7 | | 7 | 1 | |
| " | Lipton Loop | 1906 | 2 | | 2 | 1 | |
| " | Fort Qu'Appelle—File Hills Agency | 1907 | 28 | | 28 | 4 | |
| " | Saddle Lake—Industrial School | 1900 | 6½ | | 6½ | 1 | |
| " | Kamsack—Indian Agency | 1907 | 6½ | | 6½ | 2 | |
| " | Kamsack—Indian Agency—Pelly | 1910 | 17½ | | 17½ | 4 | |
| " | Battleford—Green Lake | 1912 | 165 | | 165 | 4 | |
| " | Meota Loop | 1912 | 20 | | 20 | 1 | |
| " | Grouard—Prairie River | 1912 | 25 | | 25 | 5 | |
| British Columbia | Victoria—Banfield—Cape Beale | 1891 | 130 | | 130 | 12 | |
| " | Branch to Wireless Station | | 1½ | | 1½ | | |
| " | Victoria—Jordan River (Telephone) | 1909 | 40 | | 40 | 5 | |
| " | Alberni—Banfield | 1899 | 53 | | 53 | 3 | |
| " | Alberni—Clayoquot | 1902 | 96¼ | 1¼ | 97½ | 9 | |
| " | Toquart—Sechart—Branch | 1907 | 9½ | | 9½ | 1 | |
| " | Mosquito Harbour—Tofino | 1911 | 10½ | ¼ | 10¾ | 1 | 44,413 |
| " | Tofino—Clayoquot Sound | 1911 | 11½ | | 11½ | 1 | |
| " | Nanaimo—Comox—Campbell River | 1893–08 | 118 | | 118 | 9 | |
| " | Comox—Cape Lazo | 1910 | 6 | | 6 | | |
| " | Parksville—Alberni | 1895 | 30 | | 30 | 1 | |
| " | Union—Denman—Hornby | 1907 | 23 | 2 | 25 | 5 | |
| " | Nanaimo—Gabriola | 1909 | 18¾ | ¼ | 19 | 6 | |
| " | Campbell River—Texeda Island | 1910 | 53¾ | 18½ | 72¼ | 10 | |
| " | Salt Spring Island | 1902–04 | 62 | 7½ | 69¾ | 21 | 4,103 |
| " | Malahat—Saanich | 1912 | ½ | 3 | 3½ | 1 | |
| " | Chemainus—Kuper—Thetis Island | 1912 | 7½ | 5 | 12½ | 4 | 212 |
| " | Sydney—Sydney Island | 1910 | 2½ | 2½ | 5 | 2 | 700 |
| " | Colwood—Mechosin | 1909 | 15 | | 15 | * | |
| " | Golden—Windermere | 1901–02 | 89 | | 89 | 5 | 3,382 |
| " | Kamloops—Lower Nicola | 1899 | 72 | | 72 | 14 | |
| " | Lower Nicola—Penticton—Canford | 1905–11 | 197 | | 197 | 19 | |
| " | Vernon—Kilowna | 1905 | 76 | | 76 | 4 | |
| " | Kilowna—Penticton | 1906 | 46½ | 1½ | 48 | 5 | |
| " | Vernon—Lumby | 1907 | 17 | | 17 | 1 | 83,577 |
| " | Kamloops—Louis Creek | 1908 | 39 | | 39 | 7 | |
| " | Louis Creek—Aitkens | 1910 | 30 | | 30 | 6 | |
| " | Kamloops—Grand Prairie—Vernon | 1910 | 89 | | 89 | 7 | |
| " | Nakusp—Edgewood | 1912 | 37 | | 37 | 7 | |
| | Carried forward | | 6,361¾ | 277 | 6,638¾ | 555 | 175,916 |

GOVERNMENT TELEGRAPH SERVICE—*Concluded.*

| Location of Lines. | Points connected. | Year. | Length of Lines. | | | Number of Offices. | Messages Sent. |
|---|---|---|---|---|---|---|---|
| | | | Land Lines. | Cables. | Total. | | |
| | | | Miles Wire. | Kt's. | | | |
| | Brought forward | | 6,361¾ | 277 | 6,638¾ | 555 | 175,916 |
| Yukon | Ashcroft—Dawson and Boundary | 1899-01 | 1,845 | | | 89 | |
| " | Hazelton—Port Simpson and Aberdeen | 1901-02 | 202½ | | | | |
| " | Tagish—Cariboo Crossing | 1901 | 18 | | 2,252½ | | |
| " | 150 Mile Station—Quesnelle Forks | 1902 | 64 | | | | |
| " | Ashcroft—Lillooet | 1896 | 62 | | | | |
| " | Quesnelle—Barkerville | 1887 | 61 | | | | |
| " | Ashcroft—Quesnelle (local wire) | 1878-87 | 215 | | 215 | | 107,618 |
| " | Hootalinqua—Livingstone Creek | 1907 | 35 | | 35 | 2 | |
| " | Aberdeen—Prince Rupert | 1907 | 40 | | 40 | 5 | |
| " | Kitsumkalum to Stewart | 1910-11 | 171 | | 171 | 7 | |
| " | 150 Mile House—Bella Coola | 1912 | 329 | | 329 | 17 | |
| " | Lillooet—Pioneer Mines | 1912 | 71 | | 71 | 6 | |
| " | Fraser Lake—Stewart Lake | 1912 | 40 | | 40 | 1 | |
| | Total | | 9,515¾ | 277 | 9,792¾ | 682 | 283,534 |

* Maintained by B.C. Tel. Co.

## REPORT ON THE GOVERNMENT TELEGRAPH SERVICE, 1912-13.

### EXPLANATORY NOTES.

The tabular statement prefacing this report shows the total mileage, &c., of the telegraph lines operated by the Government. Lines that have been subsidized or constructed and transferred by the Government for operation by private companies are not included in this list.

The matter in the following pages comprises a statement of specific actions taken in the course of the year; and in pursuance of the plan followed last year the particulars are given in separate reports, hereto subjoined, from the District Superintendents, and will be found indicated under the several divisional headings. In any case where no particular reference is made to a line found in the above-mentioned list, the understanding intended to be conveyed is that the line has been satisfactorily operated throughout the year, without any change of conditions since last made mention of in the annual report.

## NEWFOUNDLAND.

The line from Port au Basque to Cape Ray continued to be operated as heretofore under an arrangement with the Anglo-American Telegraph Company.

## MARITIME PROVINCES.

### CAPE BRETON, N.S.

The several short lines that were under construction in Cape Breton in 1912 as mentioned in last year's report, were carried to completion and a proposal is in hand

looking to their being equipped for telephone service in conjunction with the existing telegraph lines with which they are connected.

The usual amount of partial renewals of poles and general repairs throughout the system were made in the course of the season and the whole maintained in satisfactory working order.

*St. Paul's Island Cable.*—The cable between Bay St. Lawrence and St. Paul Island became interrupted on March 25, 1912, and because of the ss. *Tyrian* not being available it remained so through the year.

NOTE.—This cable was repaired by the ss. *Tryian* on April 30, 1913.

A report (No. 1) from the District Superintendent, Mr. D. C. Dawson, covering the operation of the Cape Breton lines is hereto appended.

BAY OF FUNDY.

*Telephone Service.*—The telephone service put in operation in 1911, as mentioned in last year's report, has been continued in a satisfactory manner. To meet the growing requirements of the community there is in contemplation the providing of a second line of cables between Grand Manan and the mainland for operation of a telegraph service as well as telephone and to, at the same time, secure the advantage of a second line of communication. This proposal has been reported upon in connection with the estimates for the coming year.

*Cable Interruptions and Repairs.*—The cable between Grand Manan and Campobello became interrupted on March 4, 1912, and in consequence of the repair ship not being available, as explained elsewhere in this report under heading ss. *Tyrian,* it remained in that condition until November 20 following, when it was again put in order.

*The Deer Island-Campobello Cable* (maintained by the Government as an aid to the local West Isles Telephone Company) also became interrupted on March 4, 1912. It was repaired by the ss. *Tyrian* on November 26 following.

*The Deer Island-Eastport Cable* was interrupted on March 1, 1913, and repaired by the ss. *Tyrian* on the 15th of the same month.

*The Cable between Gannet Rock and Little Wood Island* became interrupted November 23, 1912, and was repaired by the ss. *Tyrian* on December 7. Again on February 8, 1913, this cable was broken by a supply vessel at Gannet Rock and was repaired by the ss. *Tyrian* on the 22nd of the same month.

*The Partridge Island Cables* for the quarantine and the wireless stations, dealt with in last year's reports were again damaged by vessels anchors. The quarantine cable was broken on May 30, 1912. Communication was restored by Supt. D. C. Dawson, on June 13, but the cable was found to be badly deteriorated and in need of renewal. The cable for the wireless station gave out a little later and was also temporarily repaired on July 30. Further interruptions occurred in November, 1912, and the ss. *Tyrian* visited the locality and put down two new stretches along a shallower track than had before been followed, the change being calculated to put the cables out of reach of the vessels anchoring in that locality. The work was completed on November 30.

A report (No. 2) from the District Superintendent, Mr. J. R. Parker, covering the operations of the system, during the year ended March 31, 1913, is hereto appended.

## QUEBEC.

*Magdalen Islands Cable.*—The cable between Old Harry and Meat Cove, C.B., which became interrupted on March 20, 1912, and, as mentioned in last year's report, had to await attention by the ss. *Tyrian*, was repaired by that vessel on January 13, 1913.

*Amherst Island-Entry Island Cable.*—This cable was in course of some dredging operations broken on October 30, 1912. It was found on examination that the ends were somewhat widely separated and the services of the ss. *Tyrian* with a length of cable was required to restore the connection.

(NOTE.—This cable was repaired by the S.S. *Tyrian* on May 13, 1913.)

*Byron Island Cable.*—The repair of cable between Grosse Isle and Byron Island which, as mentioned in last year's report, was interrupted on November 15, 1911, had to be deferred because of the ss. *Tyrian* not being available for the work.

(NOTE.—This cable was attended to by the ss. *Tyrian* and repaired on May 16, 1913.)

*Maintenance and Operation, Magdalen Islands.*—A report (No. 3) from the District Superintendent, Mr. A. LeBourdais, is hereto appended.

*Anticosti Telegraph System.*—The cable between Gaspé and Southwest point became interrupted on March 20, 1912, and the traffic was routed by way of the cable between Mechastic Bay and Long Point of Mingan until January 24, 1913, when this cable also became interrupted. It chanced that the Marconi wireless operators had not yet left Heath Point and an arrangement was forthwith made with the company whereby for a payment of $200 per month plus the cable proportion (one-half) of our regular tolls, the traffic was thereafter handled by the wireless system via Grindstone, Magdalen Islands, and Pictou, N.S., until cable repairs were effected by the ss. *Tyrian*.

(NOTE.—The cable between Gaspé and Anticosti was repaired on May 24, and the one between Long Point and Anticosti on May 27, 1913.)

*Maintenance and Operation of the Anticosti Land Lines.*—A report (No. 4) from the District Superintendent, Mr. A. Malouin, is included in the appendix hereto.

### NORTH SHORE ST. LAWRENCE AND CHICOUTIMI DISTRICT.

The customary amount of work in the way of general repairs was performed with gangs under the foremanship of the regular lineman in the several divisions east and west of Bersimis.

The District Superintendent at Long Point of Mingan, Mr. E. H. Tetu, was on leave of absence through illness for several months and the interests of the line were in the interval looked after by Mr. A. Maloney, as Acting District Superintendent at Bersimis.

A report (No. 5) from Superintendent E. Pope at Quebec regarding the lines in the Chicoutimi district is included in the appendix hereto.

*Isle aux Coudres, River St. Lawrence.*—The cable between Les Eboulements, near Bay St. Paul and Isle aux Coudres became interrupted on 1st July, 1911. An unsuccessful attempt was made locally to repair it, but the renewal of a portion was found to be called for and further action was deferred. In October, 1912, Mr. M. W. Crean, of the Headquarters Staff, (with a remnant in hand of a length of three knots that

was shipped by railway from Halifax for a partial renewal of the Crane Island-Montmagny stretch) effected a restoration of the connection and communication was re-established on the 5th of that month. The length of this cable as laid is 2¼ knots.

*Crane Island-Montmagny Cable.*—This cable became interrupted on December 4, 1911. The ss. *Tyrian* not being available in the following season, there was brought up by railway from Halifax, as above mentioned, a length of three knots of cable wherewith the restoration of the connection was effected by Mr. M. W. Crean, of the Headquarters Staff, on September 25, 1912. One and one-quarter miles of the broken cable was found to have been carried away and 1½ miles of the new cable was used in the repair. To guard against further interruptions due to the action of the ice, the risky portion of this cable between Crane Island and Montmagny was picked up on November 23, 1912, and kept on a batteau in safety through the winter.

(NOTE.—This cable was relaid and communication restored by Mr. Crean and the District Superintendent, Mr. J. P. Pouliot, in co-operation on May 5, 1913.)

*Quarantine Cables.*—On April 16, 1912, interruptions due to the action of the ice were reported as having occurred in the cable stretches between St. Pierre and L'Ange Gardien and St. François-Isle Reaux, and on May 17 the stretch between Grosse Isle and Crane Island also gave out. All of these cables were taken in hand as promptly as possible by the District Superintendent, Mr. J. P. Pouliot, and repairs were completed on May 27, 1912.

### QUARANTINE TELEGRAPH AND ORLEANS ISLE TELEPHONE SYSTEM.

*Report of Operation, &c.*—The report (No. 6) hereto appended, from the District Superintendent, Mr. J. P. Pouliot, will be found to contain an account of the operating conditions, &c., throughout the year.

*Timiskaming District Telephone System.*—This system embracing a line from Kippewa dam via Ville Marie to Quinze dam and North Timiskaming, 78½ miles, as mentioned in last year's report, has been continued in satisfactory operation. A branch of 3½ miles long was built from the main line near Ville Marie to St. Isidore, in the summer of 1912, under the superintendence of Mr. J. E. Gobeil, of the Headquarters Staff. Mr. J. N. Legualt, of St. Isidore, was appointed agent on a commission basis of 25 per cent, and provision has been made in the estimates for the construction of a further extension of this branch, 18 miles or so beyond St. Isidore to Latulippe, which will be built in the course of the season of 1913.

*Construction of new lines.*—Under appropriation for 1912-13 the under-mentioned lines were built in the course of the year:—

*St. Louis Nazaire.*—This place was connected by a 2-wire or loop line 2½ miles from off the Chicoutimi-Peribonka line near Taché. The work was performed under the foremanship of the regular line repairer for that section and the office, to be operated on commission of 25 per cent of the Government line tolls guaranteed at the rate of $50 per year, was opened in charge of Mr. D. Blackburn on September 30, 1912.

*Charlesbourg-Martineau Mills.*—A telephone line from Charlesbourg via Stoneham to Martineau Mills, a distance of 19 miles, was built in the autumn of 1912 under contract by Mr. A. Martineau, of the last-named place. The Government supplied the material, No 6 galvanized iron wire and white porcelain insulators, for a single wire line, and under an agreement with the Bell Telephone Company it is at a charge of $64 per annum to connect with their system at Charlesbourg by a special circuit run

out the four miles from the Quebec Exchange. The tolls to be charged are as follows:—

*For conversation of 3 minutes with proportional charge for any period in excess of 3 minutes; or for messages of 20 words and each additional 5 words.*

| | Conversations, 3 minutes. | Messages 20 words and 5 words. |
|---|---|---|
| *Local—* | | |
| Between points on the Government line.... | 10c. | 10c. and 3 |
| Between points on the Government line and the Quebec Exchange .. .. .. .. .. .. (Of this 50 per cent belongs to the company.) | 20c. | 20c. and 5 |
| *Through—* | | |
| Between points on the Government line and points on the system of the Bell Telephone Company, to which the company's established rates from Quebec are to be added.. .. .. .. .. .. .. .. .. .. .. .. | 10c. | 10c. and 3 |

It is proposed to operate agencies for the convenience of the public on commission of 25 per cent of the Government line charges.

NOTE.—Under a further appropriation for 1913-14 some branches from off the above line are this season being built by the same contractor.

## ONTARIO.

The Pelee Island Telephone System continued in operation throughout the year 1912-13 under the same conditions as in previous years.

The appended report (No. 7) from Mr. J. McR. Selkirk, District Superintendent at Leamington, covers the operations for the twelve months to March 30.

## NORTHWEST, BRITISH COLUMBIA AND THE YUKON.

The separate reports (Nos. 8-12) appended hereto from the respective district superintendents will be found to convey an account of what has been done in these divisions of the service in the course of the fiscal year.

Under appropriations for 1912-13 there have been built in part or completed, as stated in the reports of the District superintendent, a number of new lines and branches as follows:—

SASKATCHEWAN AND ALBERTA.

Grouard to Prairie River Settlement.
Peace River to Grand Prairie.
Athabaska Landing towards Fort McMurray.
Moose to Durlingville.
North Battleford to Isle LaCrosse.
Branch of Wood Mountain Line: Limerick to Leeville.

BRITISH COLUMBIA.

Kamloops to Walhatchin.
Kelowna to Penticton (2nd wire).
Lower Nicola to Canford.

Edgewood to Nakusp.
Chemainus to Kuper and Thetis Islands.
Gabriola Island to Entrance Island.
Hornby Island Extension.
Malahat-Saanich Inlet.
Powell River to Vancouver.

YUKON SYSTEM.

150-Mile House to Bella Coola.
Fraser Lake to Stewart Lake.
Lillooet to Pioneer Mines.

## TELEGRAPH SERVICE GENERALLY.

*Cableship Tyrian.*—Owing to some extensive repairs to the hull of the ss. *Tyrian* being required, that vessel was detained at Halifax throughout the greater part of the season of 1912 (from April until the middle of November). Thereafter, however, as elsewhere stated, a considerable amount of repair work was performed, the following cables having been put in order: Grand Manan-Campobello, Deer Island-Campobello, Gannet Rock-Grand Manan, Partridge Islands-Port Dufferin and Meat Cove-Magdalen Islands.

In November, 1912, an attempt was made to lay a temporary cable (supplementary to the Anglo- American Telegraph Company's cable Cape Traverse-Cape Tormentine) across the Northumberland Strait between Wood Island, Prince Edward Island, and Point Caribou near Pictou, N.S., as a precaution against interruption of the service for Prince Edward Island during the winter, but in consequence of a sudden formation of ice and the advent of winter weather the project had to be abandoned (November 29) when the cable was laid to within a mile of the island shore.

NOTE.—This cable was subsequently (in June, 1913) recovered for use in the making of general repairs to the cables elsewhere and at the same time there was repaired and put in order for the Maritime Telegraph and Telephone company a cable belonging to their system between these two points. With this cable in operation as well as that of the Anglo-American Telegraph Company it is likely the service for the island will be maintained uninterruptedly through the coming winter.

A statement of the vessel's operations, through the period of her active service in the course of the year, is given in the accompanying report (No. 13) from Mr. A. B. McDonald, General Inspector of the Maritime Province lines, who accompanied the ship as usual in the capacity of electrician.

*Provisioning of the Ship.*—The contract with the Chief Steward, Mr. D. A. McDonald, mentioned in last year's report, was renewed for the year 1912-13. The report (No. 13a) of the Chief Steward in this connection is included in the appendix hereto.

*Telegraph Systems of the Dominion.*—As a matter of general interest, pursuant to the statement submitted last year, the latest figures to hand showing the extent of telegraph lines in operation in the Dominion are given hereunder:—

| Canada. | Length of Lines in Miles. | | | | Length of Conductors in Miles. | | | | No. of Offices |
|---|---|---|---|---|---|---|---|---|---|
| | Aerial. | Underground. | Submarine. | Total. | Aerial. | Underground. | Submarine. | Total. | |
| 1912. | Pole Line. | | | | | | | | |
| Great North Western Telegraph Co | 9,582 | | | | 31,893 | 224 | 84 | 32,201 | |
| Canadian Pacific Telegraph | 60 / 13,018 | 10 | 104 | 13,192 | 612 / 95,122 | 271 | 291 | 96,296 | 1524 |
| Western Union Telegraph Co | | | | | | | | | |
| Government Telegraph service | | | | | 9,518 | | 277½ | 9,795½ | 678 |
| Grand Trunk Pacific Telegraph | 2,319 | | | 2,319 | 8,844 | | | 8,844 | 115 |

REVENUE AND EXPENDITURE.

The revenue and expenditure for each of the Government lines in the several districts hereinbefore mentioned, are given in the following table:—

| 1912-1913. | Expenditure. | Revenue. |
|---|---|---|
| | $ cts. | $ cts. |
| Lower St. Lawrence and Maritime Provinces | | |
| Anticosti Lines } | 6,237 92 | 3,118 34 |
| Gaspé ..... } | | 50 04 |
| Bay of Fundy | 2,296 56 | 515 38 |
| Cape Breton | 22,245 03 | 3,544 62 |
| Cape Ray (subsidy) | 250 00 | |
| Escuminac | 1,820 50 | 220 64 |
| Father Point Agency | 500 00 | |
| Isle aux Coudres | 750 00 | |
| Laval Telephone | 357 32 | 69 22 |
| Magdalen Islands | 4,512 78 | 1,019 22 |
| Quarantine System } | 6,024 27 | 303 72 |
| Orleans Telephone. } | | 556 25 |
| North Shore East of Bersimis | 27,670 33 | 5,054 52 |
| North Shore West of Bersimis | 14,538 79 | 1,607 78 |
| Prince Edward Island and Mainland | | |
| Cable Ship *Tyrian*— | | |
| Maintenance and repairs | 50,569 26 | |
| Generally— | | |
| Gulf and Maritime Provinces | 4,966 17 | |
| Ontario— | | |
| Pelee Island Telephone | 394 18 | 251 15 |
| Timiskaming District Telephone Line | 2,195 64 | 203 39 |
| North West Territories Lines | 67,983 24 | 25,435 87 |
| British Columbia— | | |
| Chemainus—Kuper—Thetis Island | 172 53 | 142 25 |
| Golden—Windermere | 4,525 28 | 2,555 95 |
| Salt Spring Island | 1,730 40 | 1,363 06 |
| Sydney—Sydney Island | 8 92 | 113 57 |
| Vancouver Island | 31,546 78 | 14,228 53 |
| Kamloops—Okanagan Telephone | 19,314 26 | 22,481 50 |
| B. C. Service Generally | 5,695 99 | |
| Yukon— | | |
| Ashcroft—Dawson | 213,082 34 | 132,691 11 |
| Telegraph Service Generally | 2,162 31 | |
| Total | 491,550 80 | 215,526 11 |

*Departmental Telephone Service.*—Up to the date of this report (April 1, 1913) the telephone connections with the central office of the Bell Telephone Company at Ottawa, listed as chargeable to the special appropriation, numbered 599, the annual charge for which amounts to $26,614.76. The connections are distributed amongst the several departments, as hereunder:—

| Department. | Offices. | Residences. | Annual charge. |
|---|---|---|---|
| | | | $ cts. |
| Agriculture | 14 | 8 | 920 00 |
| Auditor General | 9 | 2 | 510 00 |
| Census | 2 | 1 | 155 00 |
| Civil Service Commission | 3 | 3 | 255 00 |
| Conservation Commission | 4 | 1 | 285 00 |
| Customs | 15 | 5 | 805 00 |
| Dominion Police | 11 | 3 | 558 00 |
| Exchequer Court | 2 | 1 | 145 00 |
| External Affairs | 2 | 1 | 153 00 |
| Finance | 11 | 3 | 570 00 |
| Governor General (including private system) | 13 | 3 | 690 76 |
| House of Commons | 19 | 4 | 940 00 |
| Indian Affairs | 13 | 2 | 565 00 |
| Inland Revenue | 10 | 3 | 555 00 |
| Interior | 69 | 11 | 3,365 00 |
| Justice | 13 | 9 | 895 00 |
| Labour | 5 | 3 | 355 00 |
| Marine and Fisheries and Naval Department | 35 | 17 | 2,122 00 |
| Militia and Defence | 43 | 14 | 2,526 00 |
| Mines | 18 | 3 | 838 00 |
| Mounted Police | 4 | 1 | 200 00 |
| Parliamentary Library | 1 | 2 | 120 00 |
| Post Office | 29 | 6 | 1,400 00 |
| Privy Council | 7 | 3 | 420 00 |
| Public Works | 59 | 19 | 5,439 00 |
| Railways and Canals | 16 | 10 | 1,070 00 |
| Secretary of State | 11 | 4 | 645 00 |
| The Senate | 9 | 1 | 408 00 |
| Stationery and Printing | 1 | 8 | 1,250 00 |
| Trade and Commerce | 6 | 4 | 455 00 |
| | 454 | 145 | 26,614 76 |

## APPENDED TABLES.

The usual tabular statements of the lines and offices, staff, &c., of the telegraph service, following hereupon, will be found to contain whatever additions or changes have been made up to March 31, 1913.

D. H. KEELEY,
*General Superintendent.*

## GOVERNMENT TELEGRAPH SERVICE.

NEWFOUNDLAND TELEGRAPH SERVICE.

| No. | Stations. | Intermediate Distance. | Agents and Operators. | Memo. |
|---|---|---|---|---|
| 1 | Port au Basque | 0 | 50 00 or commission | N.B—The commission is 25 per cent upon all business to and from the office; said commission guaranteed not to be less than at the rate of $50.00 per annum. |
| 2 | Cape Ray Lighthouse | 14 | 50 00 " | |
| | Totals | 14 | 100 00 | |

N.B.—The above short line is constructed in connection with the Signal Service, and connects at Port au Basque with the land line system of the Anglo-American Telegraph Company.

# GOVERNMENT TELEGRAPH SERVICE.

## ANTICOSTI TELEGRAPH SYSTEM.

| No. | Stations. | Intermediate Distance. | Agents and Operators. | Salaries per Annum. | Date of Appointment. | Memo. |
|---|---|---|---|---|---|---|
| | | Miles. | | $ cts. | | |
| 1 | Fox Bay | 0 | | | | Closed Aug. 5, 1909. |
| 2 | Heath Point | 2 | C. Hubert | 200 00 | Aug. 1, 1900 | For local agency. Cable removed. |
| 3 | South Point Lighthouse | 32½ | E. Leprise | 200 00 | July 1, 1903 | Increased to $200 Aug. 1, 1912. |
| 4 | Shallop Creek | 17½ | B. Bradley | 600 00 | July 7, 1881 | Increased to $600 Aug. 1, 1912. |
| 5 | Salt Lake | 52½ | Jos. Bourget, gen. repair. | 600 00 | July 17, 1906 | Increased to $600, Aug. 1, 1912. |
| | | | Mrs. Bourget, operator | 200 00 | July 17, 1906 | Plus $1 per day when on duty as general repair. Increased to $200 Aug. 1, 1912. |
| 6 | Southwest Pt. Lighthouse | 15 | A. Lemieux | 600 00 | July 1, 1901 | Increased to $600 Aug. 1, 1912. |
| | | | L. Lemieux | 300 00 | July 1, 1908 | Increased to $300 Aug. 1, 1912. |
| | Jupiter River | 7 | | | | |
| | Otter River | 17½ | | | | |
| | Beesie River | 22 | | | | |
| | Cape Eagle (Ellis Bay) | 10 | Jas. Duguay | 25% commission | June 20, 1906 | 25% commission. |
| 7 | West Point Lighthouse | 9 | A. Malouin, dist. supt. | 520 00 | Aug. 1, 1900 | Increased to $520 Aug. 1, 1912. |
| | | | A. Malouin, operator | 200 00 | Aug. 10, 1881 | Increased to $200 Aug. 1, 1912. |
| | | | Loz. Malouin, sub. opr. | 600 00 | | Increased to $600 Aug. 1. 1912. |
| 8 | English Bay | 3 | F. Cabot | 600 00 | July 1, 1882 | Increased to $600 Aug. 1, 1912. |
| | | | H. Malouin, gen. repairer | 600 00 | Sept. 10, 1909 | From Mechastic Bay to South West Point. Increased to $600 1, 1912. |
| | Mechastic Bay (cable landing). | 14½ | | | | |
| | Total | 223½ | | 5,220 00 | | |

Southwest Point connects with L'Anse à Fougère, Gaspé, by cable 44¼ knots; and from Mechastic Bay connection is made with Long Point of Mingan by cable 21 knots

| | | | | | | |
|---|---|---|---|---|---|---|
| 0 | L'Anse à Fouchère | | Thos. Dupuis | 17 00 | | Special allowance for the cable terminus. A testing station only. |
| 1 | Gaspé Basin | 28 | J. J. Annett | 660 00 | Oct. 16, 1881 | Transfer office. Connection with G.N.W. telegraph system. Increased to $660 Jan. 1. 1908. |
| | | 28 | | 677 00 | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Amherst | 0 | Miss J. Shea | 62 00 or commission | Oct. 1, 1882 | The Commission is 25 per cent on all business to and from the office in each instance; said commission guaranteed to be not less than at the rate of $50 per annum. |
| | To loop | 4½ | | | | |
| 2 | Aurigny (on loop) | 2½ | L. P. Gaudet | 50 00 " | | |
| 3 | Amherst Lighthouse | 2 | | | | |
| | To main line | 4¼ | Wm. Reneau, repairer | 180 00 " | June 9, 1908 | Salary increased to $180, July 1, 1911. |
| | To cable | 2¼ | Wm. Cormier | 50 00 " | June 11, 1881 | |
| | Cable stretch | 6½ | | | | |
| 4 | Etang du Nord village | 1½ | J. G. Binet, gen. rep | 500 00 " | Dec. 1, 1900 | Plus $1 per day when absent on duty. |
| | | | Mrs. A. Binet | 100 00 " | Dec. 1, 1881 | |
| 5 | Etang du Nord Lighthouse (on loop) | 1½ | N. Arsenault | 50 00 " | Sept. 1, 1901 | Two wire loop line. |
| | To main line | 1½ | | | | |
| 6 | Grindstone | 7 | W. Leslie | Commission 25 p.c | May 20, 1897 | |
| 7 | Grindstone West | 1 | A. LeBourdais, dis. supt. | 900 00 " | Aug. 17, 1880 | Plus $1 per day when absent on duty. The salary was $720 per annum prior to July 1, 1908. |
| | To cable (on loop) | ¼ | | | | |
| | Cable stretch (on loop) | ½ | J. J. LeBourdais | 500 00 " | May 25, 1904 | Salary increased to $500, Dec. 1, 1911. |
| 8 | House Harbour (on loop) | 2¼ | Camille Delaney | 50 00 or commission | June 1, 1888 | |
| 9 | Pointe Basse (on loop) | 3 | H. Arseneau | 50 00 " | Aug. 1, 1902 | |
| 10 | South Beach (on loop) | 3 | | | | |
| | To main line (wire) | 8½ | F. Chevrier | 50 00 " | July 1, 1905 | |
| | To main cable | ½ | | | | |
| | To loop | 2¼ | | | | |
| 11 | Cap Verte (on loop) | ¾ | Mrs. G. Cyr | 50 00 " | June 22, 1909 | |
| | To main line | ¾ | | | | |
| 12 | Wolfe Island | 12 | | | | |
| 13 | Grosse Isle | 11¼ | N. Clarke | 420 00 or commission | June 1, 1888 | For repeating station. Prior to Dec. 1, 1902, the allowance was $200 and commission for local agency. |
| | | | J. Quinn | 240 00 " | Dec. 1, 1902 | |
| 14 | Old Harry | 9 | L. V. Clarke | 50 00 " | Mar. 8, 1907 | |
| 15 | Grand Entry | 5¾ | Mrs. F. Atkins | 50 00 " | Feb. 18, 1882 | |
| | | | S. Clarke, repairer | 180 00 " | April 1, 1912 | Plus $1.50 per day for labour and $1 per day horse hire when on line work. |
| | **Cable Connections.** | | | | | |
| | Grosse Isle | 0 | | | | |
| | Old Harry (wire only) | 9 | (Cable landing) | | | |
| | *Cable to Meat Cove*, Cape Breton | 55 | (See Meat Cove Line) | | | |
| | Grosse Isle | 0 | | | | |
| | *Cable to Brion Island* | 11 | | | | |
| 16 | Brion Island | 1 | W. Dingwall | 150 00 or commission | Jan. 1, 1903 | Two wire loop line from terminal hut for Grosse Isle cable. |
| 17 | Brion Lighthouse | 3½ | P. Chevrier | 50 00 " | | |
| | Amherst | 0 | | | | |
| | *Cable to Entry Island* | 6¾ | | | | |
| 18 | Entry Island Lighthouse | 2 | E. Chenell | 15 00 | | |
| | Total | 181¾ | | 3,747 00 | | |

Total mileage, Magdalen Islands system: Land wires, 101½; Cables, 80¼; Pole Line, 83¾.

4 GEORGE V., A. 1914

## GOVERNMENT TELEGRAPH

### NORTH SYDNEY—

| No. | Offices. | Intermediate Distances. Embracing Wire. | Pole Line. | Cables. | Agents and Operators. |
|---|---|---|---|---|---|
| | | Miles. | Miles. | Miles. | |
| 1 | Meat Cove* | 0 | | | Mrs. H. L. McEachern |
| 2 | Capsticks | 3 | | | J. W. Capstick |
| | To loop | 4 | 7 | | |
| 3 | Bay St. Lawrence (loopwire) | ½ | | | V. Therriault |
| | Money Point (Branch line) | 8 | 8 | | Mrs. V. Therriault, Asst. See accompanying table |
| 4 | Aspy Bay | 4½ | 4½ | | R. G. Zwicker |
| 5 | Cape North Island | 5 | 5 | | N. A. McDonald |
| | To loop | 1 | 1 | | |
| 6 | Dingwell (loopwire) | 5½ | | | Joe O'Brien |
| | To loop | 10 | 10 | | |
| 7 | Neils Harbour (loopwire) | 2½ | | | Arch. McLean |
| 8 | Ingonish | 9 | 9 | | J. E. McLeod |
| 9 | South Ingonish | 10½ | 10½ | | Mrs. M. C. Williams |
| 10 | Ingonish Ferry (¼ mile cable included) | 2¼ | 2 | ¼ | Mrs. M. A. McKinnon |
| 11 | Wreck Cove | 9 | 9 | | Miss Mary Morrison |
| 12 | French River | 5 | 5 | ¼ | John McDonald |
| 13 | Breton Cove | 2 | 2 | | D. B. McLeod |
| 14 | Indian Brook | 7 | 7 | | Sadie McDonald |
| | To loop | 2 | 2 | | |
| 15 | Murray (on loop) | 8 | | | R. B. Matheson |
| 16 | North River Bridge (on loop) | 2 | | | D. J. Morrison |
| | To main line | 10 | 10 | | |
| 17 | Englishtown (¼ mile cable included) | 4 | 3¾ | ¼ | J. D. McAskill |
| 18 | South Gut (on loop) | 5 | | | Rachel Morrison |
| 19 | Baddeck (on loop) | 13 | | | L. M. Anderson |
| | To Englishtown | 18 | 18 | | |
| 20 | Kellys Cove (New Campbellton) | 12 | 12 | | Miss A. Morrison |
| 21 | Big Bras d'Or (½ mile cable included) | 2½ | 2 | ½ | D. Livingston |
| 22 | Little Bras d'Or (350 ft. cable included) | 8 | 8 | | M. Richards |

*Meat Cove station connects with the Magdalen Islands system by cable to Old Harry Head, 55 knots,

SESSIONAL PAPER No. 19

SERVICE—*Continued.*

MEAT COVE SECTION.

| Salaries per annum. | Date of Appointment. | Memo. |
|---|---|---|
| $ cts. | | |
| 50 00 or commission* | Sept. 1, 1897 | *Where not otherwise stated the commmission is 25 p.c. of the tolls for the Government line on all business to and from the office in each instance; said commission guaranteed to be not less than at the rate of $50 per annum. |
| 50 00 " | | |
| 720 00 | May 1, 1902 | Cable station at Bay St. Lawrence in place of Meat Cove since September 1, 1906. |
| 420 00 | " 1, 1902 | |
| ... ... ... | ... ... | |
| 50 00 or commission | Jan. 19, 1910 | This office was formerly in charge of the late Mr. J. Y. Nichols. |
| 50 00 " | May 13, 1904 | |
| 50 00 " | Nov. 1, 1907 | |
| 50 00 " | Feb. 1, 1912 | |
| 50 00 " | Jan. 1, 1913 | |
| 50 00 " | Jan. 11, 1910 | Formerly in charge of Mr. Geo. Brewer, resigned. |
| 50 00 " | Oct. 1, 1903 | |
| 50 00 " | May 18, 1908 | |
| 50 00 " | April 1, 1899 | |
| 25 p.c. commission | July 19, 1907 | |
| 50 00 or commission | Feb. 1, 1907 | Closed December 6, 1912. |
| 50 00 " | Jan. 29, 1902 | Closed during winter of 1909-10. |
| 50 00 " | Oct. 5, 1909 | |
| 120 00 and commission and 25 p.c. R. & Cks. | Mar. 28, 1912 | Mr. W. Bingham, deceased, Jan. 8, 1912. Switching point for Baddeck line. |
| 50 00 or commission | Sept. 1, 1904 | |
| 150 00 and 25 p.c. R.& Cks. | June 17, 1904 | Salary, $120 per year previous to this appointment. Former agent, Mr. A. Anderson. |
| ... ... | ... ... | This loop to Baddeck starts from and returns to English town. |
| 50 00 or commission | Dec. 2, 1909 | |
| 100 00 " | Jan. 1, 1889 | Increase from $50 to $100 since November 1, 1904. |
| 50 00 " | Dec. 1, 1912 | |
| 2,310 00 | | |

and Bay St. Lawrence with St. Paul's Island by a cable of 20 knots. The latter is operated with telephones.

4 GEORGE V., A. 1914

DOMINION TELEGRAPH

NORTH SYDNEY—

| No. | Offices. | Intermediate Distances. Embracing Wire. | Pole line. | Cable. | Agents and Operators. |
|---|---|---|---|---|---|
| | | Miles. | Miles. | Miles. | |
| | | | | | Brought forward.. |
| 23 | North Sydney | 4½ | 4½ | | W. U. Tel. Co |
| | Instructor | | | | Miss B. Bingham, Englishtown |
| | General Inspector | | | | A. B. McDonald, North Sydney |
| | District Superintendent for all lines in Cape Breton | | | | D. C. Dawson, St. John, N.B. |
| | Total | 177¾ | 140¼ | 1 | |
| | *Repairers' Sections.* | | | | |
| | General— | | | | |
| | Meat Cove—Big Bras d'Or | 162¾ | 125¾ | ½ | J. G. Dunlap, Baddeck |
| | Big Bras d'Or—North Sydney | 15 | 14½ | ½ | Jos. Logue, North Sydney |
| | Local— | | | | |
| | Meat Cove—Money Point and Aspy Bay | 20 | 19½ | | Pat. Capstick |
| | Aspy Bay—Neils Harbour | 24 | 16 | | M. McCaskell |
| | Neils Harbour—Ingonish Ferry | 21¾ | 21½ | ¼ | Rupert Curtis |
| | Ingonish Ferry—Englishtown | 29 | 28¾ | ¼ | N. M. McLeod |
| | Baddeck Loop Line | 36 | 18 | | D. McAuley |
| | Murray Loop Line | 20 | 10 | | J. Smith |
| | Englishtown—Big Bras d'Or | 14½ | 14 | ½ | H. Murdoch Campbell |
| | Big Bras d'Or—North Sydney | 12½ | 12½ | | Duncan McRae |
| | Total | 177¼ | 140¾ | 2 | |
| | *Money Point Branch.* | | | | |
| 1 | Bay St. Lawrence | 0 | | | V. Therriault |
| 2 | Bay St. Lawrence Beach | 1½ | 1½ | | J. O'Brien |
| 3 | Cape North Light (Money Point) | 5½ | 5½ | | Norman McLeod |
| 4 | Cape North Fog Alarm (Money Point) | 1 | 1 | | Stanley Hackett |
| | | 8 | 8 | | (Included in the mileage.) |
| | *St. Paul's Branch.* | | | | |
| | Bay St. Lawrence | 0 | | | |
| | St. Paul's Island (Inc. 20 Kts. cable) | 23 | 3 | 20 | J. Campbell |

SESSIONAL PAPER No. 19

SERVICE—*Continued.*

MEAT COVE SECTION—*Continued.*

| Salaries per Annum. | Date of Appointment. | Memo. |
|---|---|---|
| $ cts. | | |
| .... 2,310 00 | | |
| Commission only..... | ..... ... | The commission is 50 p.c. on local business and 25 p.c. on through messages; and covers supervision of line and office accommodation at North Sydney. |
| 600 00 | Nov. 1, 1902. | Salary increased to $600, Aug. 1st., 1911. |
| 1,500 00 | May 9, 1905. | Increase to $1,500 from April 1st, 1909. |
| | | Allowance of $300 per year in addition for office rent, &c. |
| 720 00 | Jan. 24, 1892. | Mr. McDonald accompanies the ss. *Tyrian* as electrician in connection with the cable-laying and repairing. |
| | | Latest adjustment of allowance dates from July 1, 1907. |
| 5,130 00 | | The C. B. lines are operated in conjunction with the Western Union Telegraph. |
| 540 00 per annum. . | Dec. 31, 1912. | Increased from $480, March 1st, 1911. |
| (See Eskasoni line, &c.). | .... ..... | Horse hire allowed in addition since Dec. 1, 1909. |
| 80 00 per annum. . | Dec. 31, 1912. | NOTE.—The rates of allowance are as adjusted in June, 1910. |
| 90 00 " .. | Prior to June 1910. | In reckoning the repair sections, loops (2 wire lines) are taken as equivalent to 50 p.c. additional pole line. Thus the Murray loop, 20 miles of wire and 10 miles of poles, is equivalent to 15 miles of pole lines. |
| 90 00 " .. | Jan. 1, 1912 | |
| 100 00 " .. | " | |
| 100 00 " .. | Prior to June 1910. | |
| 60 00 " .. | " | |
| 60 00 " .. | " | |
| 60 00 " . | June 1, 1910. | |
| 1,180 00 | | |
| Accommodation. .... ..... | Dec. 10, 1907. | This line was established and is being operated by telephone in the interest of the Signal Service. |
| " ..... | " | |
| " ..... .. | June 1, 1909. | |
| (of the Meat Cove, North Sydney section.) | | |
| 50 00 or commission. ..... | Oct. 1, 1890. | |

## GOVERNMENT TELEGRAPH SERVICE—*Continued*

### NORTH SYDNEY–MEAT COVE SECTION—*Concluded.*

| No. | Stations. | Intermediate Distance. | Agents and Operators. | Salaries per Annum. | Date of Appointment. | Memo. |
|---|---|---|---|---|---|---|
| | *Repairers' Sections*—Con. | Miles. | | $ cts. | | |
| | Baddeck Loop Line | 36 | D. McAuley | 100 00 per annum | Prior to June, 1910 | |
| | Murray Loop Line | 20 | J. Smith | 60 00 " | " " | |
| | Englishtown Big Bras d'Or | 14½ | Murdoch Campbell | 60 00 " | " " | |
| | Big Bras d'Or North Sydney | 12½ | Duncan McRae | 60 00 " | June 1, 1910 | |
| | | 177¾ | | 280 00 | | |
| | *Money Point Branch.* | | | | | |
| 1 | Bay St. Lawrence | 0 | V. Therriault | Accommodation | Dec. 10, 1907 | This line was established and is being operated by telephone in the interest of the Signal Service. |
| 2 | Bay St. Lawrence Beach | 1½ | J. O'Brien | " | Dec. 10, 1907 | |
| 3 | Cape North Light (Money Point) | 5½ | Norman McLeod | " | Dec. 10, 1907 | |
| 4 | Cape North Fog Alarm (Money Point) | 1 | Stanley Hackett | " | June 1, 1909 | |
| | Total | 8 | | | | |

### CAPE BRETON : NORTH SYDNEY, BOULARDERIE AND ESKASONI SECTIONS.

| | | | | | | |
|---|---|---|---|---|---|---|
| | *Boularderie Line.* | | | | | |
| | *North Sydney.* | | | | | |
| | Little Bras d'Or (M. C. pol's) | 4½ | (See Meat Cove Line) | | | |
| 1 | Alder Point (loop line) | 5 | Miss M. Plank | 50 00 or commission | Nov. 18, 1912 | The commission in 50 p.c. of the Govt. line tolls in each instance and is guaranteed to amount to not less than $50 per annum. |
| 2 | Groves Point (1 mi. M.C. poles) | 3 | Rod. Campbell | 50 00 " | Dec. 18, 1912 | |
| 3 | Hillside | 4 | Mrs. Annabelle McKenzie | 50 00 " | Feb. 1, 1907 | |
| 4 | Boularderie West | 4 | John McIntyre | 50 00 " | Jan. 1, 1907 | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5 | S. S. Boularderie | 3 | Donald McRae | 50 00 | " | Jan. | 1, 1907 | | |
| 6 | Pointe Clear | 4 | Mrs. M. McLeod | 50 00 | " | Dec | 1, 1906. | | |
| 7 | Upper Kempt Head | 7 | Mrs. Murdock McKenzie | 50 00 | " | Oct. | 6, 1904 | | |
| 8 | Ross Ferry | 6½ | Mrs. J. F. McKenzie | 50 00 | " | Oct. | 1, 1911 | | |
| 9 | Boularderie Centre | 6 | Mrs. J. B. Mckenzie | 50 00 | " | Oct. | 6, 1904 | | |
| | Big Bras d'Or | 7½ | (See Meat Cove line) | | | | | | |
| | Total miles wire | 54½ | Pole line 51. | 450 00 | | | | | |
| | *Repairers' Sections.* | | | | | | | | |
| | Alder Point—Little Bras d'Or | 5 | John T. Tobin | 50 00 | " | Oct. | 1, 1912 | | |
| | Big Bras d'Or — Upper Kempt Head | 20 | J. A. C. McKenzie | 50 00 | " | Jan. | 1, 1907 | | |
| | Little Bras d'Or — Upper Kempt Head | 24 | M. McLeod | 50 00 | " | July | 12, 1909 | | |
| | On Meat Cove poles | 5½ | | | | | | | |
| | General repairer | | Jos. Logue | (See below) | | | | | |
| | Total | 54½ | | 150 00 | | | | | |
| | *Eskasoni Line.* | | | | | | | | |
| | North Sydney | | | | | | | | |
| 1 | French Vale (5¼ on Gabarus poles) | 11 | John J. McLean | 50 00 | or commission | Mar. | 25, 1907 | The commission is 25 p.c. of the Govt. line tolls in each instance and is guaranteed to amount to not less than $50 per annum. | |
| 2 | Gillis Lake | 5 | Daniel H. Gillis | 50 00 | " | Feb. | 28, 1907 | | |
| 3 | East Bay | 4 | Miss M. L. McNeil | 50 00 | " | | | | |
| 4 | North Side, East Bay | 6 | James J. Gillis | 50 00 | " | Jan. | 15, 1907 | | |
| 5 | Eskasoni | 5 | Miss Sadie McMillan | 50 00 | " | Dec. | 6, 1907 | | |
| 6 | Castle Bay | 6 | Miss C. McInnis | 50 00 | " | Aug. | 18, 1912 | | |
| 7 | Benacadie Pond | 5 | J. N. McNeil | 50 00 | " | Mar. | 20, 1909 | | |
| 8 | Benacadie | 5 | Hugh Farrell | 50 00 | " | Mar. | 20, 1909 | | |
| 9 | Piper's Cove | 2 | M. D. McNeil | 50 00 | " | Mar. | 20, 1909 | | |
| 10 | Grand Narrows | 4 | J. J. McNeil | 50 00 | " | May | 1, 1910 | Previously in charge of Daniel McNeil. | |
| | Total miles of wire | 53 | Pole line 47¼. | 500 00 | | | | | |
| | *Repairers' Sections.* | | | | | | | | |
| | On Meat Cove poles | 5¾ | A. G. McLean, McLeanville. | 50 00 | per annum | June | 1, 1907 | | |
| | From Meat Cove Line to Gillis Lake | 10¼ | | | | | | | |
| | From Gillis Lake to Eskasoni (Castle Bay) | 21 | Duncan Gillis, North Side, East Bay. | 50 00 | " | June | 1, 1907 | | |

## GOVERNMENT TELEGRAPH SERVICE—*Continued.*

### CAPE BRETON—NORTH SYDNEY, BOULARDERIE AND ESKASONI SECTIONS—*Continued.*

| No. | Stations. | Intermediate Distance. | Agents and Operators. | Salaries per Annum. | Date of Appointment. | Memo. |
|---|---|---|---|---|---|---|
| | *Repairers' Sections*—Con. | Miles. | | $ cts. | | |
| | From Castle Bay to Grand Narrows | 16 | J. L. McDonald, Grand Narrows | 50 00 per annum | June 10, 1909 | |
| | Total | 53 | | 150 00 | | |
| | *General Repairer.* | | | | | |
| | Boularderie line | 54½ | | | | |
| | Eskasoni line | 53 | | | | |
| | Gabarus line: North Sydney—Leitche's Creek | 5½ | Jos. Logue, North Sydney | 540 00 per annum | Jan. 1, 1906 | Horse hire allowed in addition. |
| | Meat Cove line: North Sydney—Big Bras d'Or | 15 | | | | |
| | Total | 128½ | | | | |

### BAY ST. LAWRENCE—HAWKESBURY SECTION.

| | | | | | | |
|---|---|---|---|---|---|---|
| | Bay St. Lawrence | 0 | (See North Sydney line) | | | |
| 1 | Meat Cove (2nd wire) | 7½ | " " | | | |
| 2 | Cape St. Lawrence | 4 | Mrs. C. Jamieson | 50 00 or commission | Jan. 1, 1904 | The commission is 25 p.c. on all business to and from the office in each instance: said commission guaranteed to be not less than at the rate of $50 per annum. |
| | Half way | 1½ | | | | |
| | Poulets Cove | 5½ | | | | |
| 3 | Pleasant Bay | 8 | Mrs. G. P. McIntosh | 50 00 " | Sept. 1, 1907 | |
| | Barren | 10 | | | | |
| 4 | Cheticamp (Eastern Harbour) | 10 | M. S. Aucoin | | April 30, 1912 | 50 p.c. Receipts and cheques without guarantee. |
| 5 | Grand Etang | 8 | | | | Closed in March, 1905. |
| 6 | Margaree Harbour | 8 | A. B. C. McLean | 120 00 without com'n. | Oct. 20, 1896 | Allowance 50 p.c. Receipts and cheques government line prior to May, 1910. |
| 7 | Margaree Forks | 8 | Sarah McDougall | 50 00 or commission | Sept. 10, 1908 | |
| 8 | N.E. Margaree (loop wire) | 10 | Mrs. J. D. Ross | 50 00 " | Feb. 1, 1898 | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 9 | S. W. Margaree | 4 | Mrs. M. Collins | 50 00 | " | Jan. | 1, 1912 | |
| | To loop | 12 | | | | | | | |
| 10 | Inverness (loop wire) | 8 | Mrs. G. F. McLean | 360 00 | without com'n. | April | 1, 1912 | Plus $12 per annum for Battery care. |
| 11 | Strathlorne (Willow B'nk) | 3 | Miss Rosa McLean | 180 00 | and commission | Nov. | 1, 1908 | |
| 12 | Mabou | 9 | Mrs. M. McDonald | 120 00 | without com'n. | April | 1, 1887 | |
| 13 | Port Hood | 10 | D. J. McDonald | 50 00 | or commission | July | 1, 1903 | |
| 14 | Smith's Id. (on loop) 1 mi. cable included | 3¼ | Miss E. L. Smith | 50 00 | " | Nov. | 1, 1907 | |
| 15 | Henry Id. (on loop) 1½ miles cable included | 3½ | Miss C. McLennan | 50 00 | " | Nov. | 8, 1907 | |
| | To Port Hood, 2½ miles cable included | 6¾ | | | | | | |
| 16 | Judique | 10 | Miss M. C. McDonald | 50 00 | " | Jan. | 1, 1912 | |
| 17 | Craignish (Craigmore) | 8 | Allan Cameron | 50 00 | " | Nov. | 1, 1903 | |
| 18 | Port Hastings | 10 | Mrs. A. Petrie | 50 00 | " | Aug. | 2, 1912 | |
| 19 | Hawkesbury | 3¾ | Miss E. McDonald | 240 00 | without com'n. | Nov. | 1, 1903 | |
| | Total | 171½ | | 1,570 00 | | | | |

Miles of wire, 166½; miles of cable, 5; miles of pole line, 146.

*Wycocomagh Branch Line*

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Strathlorne (Willow B'nk) | 0 | J. B. McCormick | 50 00 | or commission | Mar. | 4, 1910 | Repeating office, $15 per month, plus $1 per month for battery care from May 1, 1910 (C. 972). |
| 1 | McCormick (Loch Ban) | 2¼ | | | | | | | |
| | To loop | 6 | | | | | | | |
| 2 | Hays River Loop | 1¼ | H. R. Beaton | 50 00 | " | July | 8, 1912 | |
| 3 | West Side Lake | 2⅝ | P. M. McInnes | 50 00 | " | Mar. | 4, 1910 | |
| | To main line | 2⅝ | | | | | | | |
| 4 | Brook Village | 6 | Miss Stella Jamieson | 50 00 | " | April | 26, 1912 | |
| 5 | Wycocomagh | 12½ | Daniel Ross | 50 00 | " | Mar. | 4, 1910 | |
| | Total miles of wire | 33½ | Pole line, 29½ | 250 00 | | | | |

*Repairers' Sections.*

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| General— | | | | | | | | |
| Meat Cove—Inverness | 104½ | P. A. Doyle, Inverness | 480 00 | per annum | Feb. | 1, 1912 | Horse hire allowed in addition to salary. |
| Inverness–Hawkesbury | 67¾ | J. F. McMillan, Port Hastings | 480 00 | " | May | 17, 1910 | Prior to March 1, 1911. Salary $35 per month |
| Wycocomagh Line | 32¾ | | | | | | |
| Local— | | | | | | | |
| Bay St. Lawrence—Meat Cove | 7¼ | (See North Sydney Line) | | | | | |
| Meat Cove—Half-Way Shanty | 5½ | R. Fraser | 40 00 | " | May | 20, 1903 | |
| Half-Way Shanty—Poulets Cove | 5½ | A. Fraser | 30 00 | " | Sept. | 1, 1912 | |

## GOVERNMENT TELEGRAPH SERVICE—*Continued.*

### BAY ST. LAWRENNCE—HAWKESBURY SECTION—*Continued.*

| No. | Stations. | Intermediate Distance. | Agents and Operators. | Salaries per Annum. | Date of Appointment. | Memo. |
|---|---|---|---|---|---|---|
| | *Repairers' Section.*—Con. | Miles. | | $ cts. | | |
| | Poulets Cove—Pleasant Bay | 8 | K. Fraser | 40 00 per annum | May 20, 1903 | |
| | Pleasant Bay—Barren | 10 | E. J. Timmons | 40 00 " | Mar. 16, 1909 | |
| | Barren—Cheticamp | 10 | L. A. Poirier | 80 00 " | May 15, 1912 | Mr. J. A. Chaisson former repairer resigned on February 15, 1912. |
| | Cheticamp—Grand Etang | 8 | | 40 00 " | July 1, 1905 | |
| | Grand Etang—Margaree H | 8 | H. K. McLean | 25 00 " | July 1, 1905 | |
| | Margaree H.—S. W. Margaree and N. E. Margaree loop | 22 | J. J. Miller | 50 00 " | Mar. 16, 1912 | Mr. A. McFarlane, deceased, January 31, 1912. |
| | S. W. Margaree—Strathlorne | 23 | J. D. McFarlane | 40 00 " | June 4, 1902 | |
| | Strathlorne—Mabou | 9 | L. G. McDougall | 40 00 " | Nov. 3, 1902 | |
| | Mabou and Judique | 20 | Angus J. McDonald | 50 00 " | Sept. 1, 1912 | |
| | Judique and Port Hawkesbury | 21⅝ | J. N. McIsaac | 50 00 " | Aug. 1, 1904 | Of this section (see list) 5 miles is submarine cable; the land line portions covering but 4½ miles of 2-wire line for the loop. |
| | Pt. Hood Islands | 13½ | Ambroise Smith | 20 00 " | Aug. 1, 1908 | |
| | Total | 171½ | | 1,460 00 | | |

### CAPE BRETON—HAWKESBURY—SCATARIE ISLAND SECTION.

| | | | | | | |
|---|---|---|---|---|---|---|
| | Hawkesbury | 0 | (See Bay St. Lawrence line). | | | |
| 1 | River Bourgeois | 26 | M. E. Boyd | 50 00 or commission | Nov. 1, 1903 | The commission is 25 p.c. of the Government line tolls, and is guaranteed to amount to not less than $50 per annum. Where 50 p.c. commission is paid there is no guarantee as to amount. |
| 2 | St. Peters | 6 | Miss. C. McKenzie | 100 00 " | June 30, 1912 | Main battery at St. Peters. |
| 3 | Rockdale | 4 | D. B. Pottie | Commission (25% only) | Nov. 1, 1909 | |
| | To loop | 2⅜ | | | | |
| 4 | LowerLardoise(loop wire) | ½ | Mrs. E. Finlayson | 50 00 or commission | May 11, 1910 | |
| 5 | Grand River | 7 | Miss. E. A. Finlayson | 120 00 and " | June 1, 1903 | Repeating office. Allowance $50 and commission prior to April 1, 1912. |
| 6 | L'Archevêque | 6 | W. Kempt | 50 00 " | June 1, 1912 | |
| 7 | St. Esprit (Laframboise Intervale) | 7 | Mrs. J. D. Morrison | 50 00 " | Sept. 1, 1906 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 8 | Fourchie (Fourchu) | 13 | E. McKinnon | 50 00 or commission | June | 22, 1910 | |
| | To loop | 16 | | | | | |
| 9 | Gabarus (loop wire) | 3 | Miss. C. Grant | 360 without " | Jan. | 16, 1904 | Repeating office. Automatic repeaters for North Sydney line. $3 per month in winter for attending fire. Rent allowance $75 per annum. |
| 10 | Louisburg | 11 | Wesley Townsend | 50 00 or " | Feb. | 1, 1904 | |
| 11 | Big Lorraine | 3 | M. P. Dowd | Accommodation office | Jan. | 15, 1913 | |
| 12 | Little Lorraine | 4 | John Gallant | 25% commission | June | 1, 1912 | |
| 13 | Main à Dieu | 6 | Mrs. Jas. McDougall | 25% " | Feb. | 4, 1912 | Main battery at Main-a-Dieu. |
| | To Landing | 1 | | | | | |
| 14 | Scatarie Island W. Cable | $3\frac{1}{4}$ | E. E. Pope | 50 00 or " | Aug. | 15, 1904 | |
| 15 | Scatarie Island East | $7\frac{3}{4}$ | Miss. T. Nearing | 50 00 " | May | 20, 1912 | $8 per annum for care of main battery. |
| | Total | $126\frac{3}{4}$ | | 980 00 | | | |
| | Miles of wire, $123\frac{1}{2}$; miles of cable, $3\frac{1}{4}$; miles of pole line, $121\frac{3}{4}$. | | | | | | |
| | *Grand River — Gabarus Line.* | | | | | | |
| | Grand River | 0 | (See Hawkesbury line). | | | | |
| | To loop | 7 | | | | | |
| 1 | Grand River Falls (loop wire) | 3 | Mrs. E. D. McKillop | 50 00 or commission | Dec. | 20, 1907 | |
| 2 | Loch Lomond | $5\frac{1}{2}$ | F. McDonald | 50 00 " | Feb. | 7, 1913 | |
| 3 | Enon | 4 | A. D. Morrison | 50 00 " | Mar. | 21, 1912 | |
| | Salmon River | 16 | | | | | |
| | Victoria Bridge | 8 | | | | | |
| 4 | Gabarus (North Sydney line poles, $2\frac{1}{2}$ miles) | 5 | (See Hawkesbury line) | | | | |
| | Total | $48\frac{1}{2}$ | Pole line, $44\frac{1}{2}$ | 150 00 | | | |
| | *N. Sydney—Gabarus Line* | | | | | | |
| | North Sydney | 0 | (See Meat Cove line) | | | | This line between North Sydney and Gabarus, with out any intermediate offices prior to June, 1910, has been in operation since December 11, 1903. |
| 1 | Leitches Creek | $3\frac{1}{2}$ | J. D. McCormack | 50 00 or commission | Feb. | 28, 1913 | |
| 2 | Ball's Creek | $5\frac{1}{2}$ | D. A. McCormick | Commission (25% only) | June | 1, 1910 | |
| 3 | Marion Bridge | $17\frac{1}{2}$ | Austin Morrison | 50 00 or commission | Aug. | 2, 1912 | |
| 4 | Gabarus (Hawkesbury pole line, 3 miles) | 12 | (See Hawkesbury line) | | | | |
| | Total | $38\frac{1}{2}$ | Pole line, $35\frac{1}{2}$ | 100 00 | | | |
| | *Repairers' Sections.* | | | | | | |
| | Local— Grand River to Enon | $19\frac{1}{2}$ | H. Urquhart, Grand River | 50 00 per annum | June | 10 1909 | |

## GOVERNMENT TELEGRAPH SERVICE—*Continued.*

### CAPE BRETON — HAWKESBURY – SCATARIE ISLAND SECTION— *Continued.*

| No. | Stations. | Intermediate Distance. | Agents and Operators. | Salaries per Annum. | Date of Appointment. | Memo. |
|---|---|---|---|---|---|---|
| | *Repairer's Sections*—Con. | Miles. | | $ cts. | | |
| | Grand River to Fourchu. | 26 | D. McKillop, Grand River. | 50 00 per annum | June 10, 1909 | |
| | General— | | | | | |
| | Hawkesbury to Gabarus. | 89¾ | M. McRae, St. Peters | 480 00 " | Feb 1, 1912 | Horse hire allowed in addition since December 1, 1909. Salary $35 per m. prior to Mar. 1, 1911. |
| | Gabarus to Leitches Cr'k | 33 | | | | |
| | Gabarus to Scatarie Id. E | 33½ | D. S. Hooper, Louisburg | 540 00 " | July 21, 1912 | Horse hire allowed in addition. |
| | Gabarus to Enon. | 29 | | | | |
| | | | | 1,120 00 | | |

New Lines—Baddeck—Nyanza, 6¼ miles: Nyanza—Little Narrows, 13¾ miles—19½ miles.

### CHATHAM–ESCUMINAC, N. B. TELEGRAPH SYSTEM.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Chatham | 0 | Great Northwestern Telegraph Co. | 185 00 | | | This amount is paid for supervision of the line and office accommodation at Chatham. |
| 2 | Black River | 15½ | M. McDougall | 50 00 or commission. | July | 1 1904 | The commission is 25 p.c. of the Government line tariff receipts in each instance, and is guaranteed to amount to not less than $50 per annum. |
| 3 | Baie du Vin | 5 | M. A. Williston | 50 00 " | | | |
| 4 | Lower Hardwicke | 6 | Mrs. M. Bremner | 50 00 " | Aug. | 1, 1891 | |
| 5 | Escuminac | 3¾ | D. Lewis | 50 00 " | Sept. | 1, 1885 | |
| 6 | Point Escuminac Lighthouse | 12 | K. R. McLennan | 50 00 " | Nov. | 1, 1893 | $12 per annum allowed for care of main battery at Point Escuminac. |
| | Total | 42¼ | | 435 00 | | | |

## NOVA SCOTIA TELEGRAPH SYSTEM.

### Cape Sable Section.

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | Barrington | 0 | | | | This line has been leased to the Barrington Telephone Company from August 12, 1897. The lease is terminable at any time. |
| 2 | Newelton (including 1½ knots cable) | 11 | | | | |
| 3 | Cape Sable Island lighthouse (including ¼ mile cable) | 6¾ | | | | |
| | | 17¾ | | | | |

### East Coast Section.

N. B.—In connection with the Signal Service, a land line, 208 miles in length, was erected in 1881, between Canso and Halifax, for a bonus of $16,000, and is maintained and operated by the Western Union Telegraph Company, without further cost to the Government.

## BAY OF FUNDY, N.B., TELEGRAPH SYSTEM.

### Grand Manan and Campobello Islands.

| | | | | $ cts. | | |
|---|---|---|---|---|---|---|
| | Grand Manan— | | | | | The commission of 25 p. c. on all Government line business to and from the office and commission guaranteed not to be less than at the rate of $50 per annum. When 50 p. c. commission is paid there is no guarantee as to amount. |
| 1 | Long Eddy Cable Hut to Flaggs Cove | 3 | | | | Mrs. C. C. Seely, deceased, April 4, 1912. |
| | " | | J. R. Parker, Dist.-Supt. | 540 00 | May 14, 1912. | Rent $100 per annum. Fuel, about $50. |
| | " | | A. Gilmour, repairer | 60 00 | Dec. 1, 1894. | |
| 2 | Castalia | 2½ | Geo. E. Dalzell | 25 p.c. commission | June 1, 1898. | |
| 3 | Woodswards Cove | 3½ | M. A. Fraser | 50 " " | Feb. 28, 1893. | |
| 4 | Grand Harbour | 2 | I. L. Newton | 75 00 or commission. | April 1, 1887. | $25 per annum included for repeating White Head Branch. Seal Cove also $25 re Gannet Rock Line. |
| 5 | Seal Cove | 4½ | J. A. Ingersoll | 75 00 " | Sept. 22, 1899. | |
| 6 | " | ¼ | Mrs. Robert Fraser | 25 00 " | Jan. 1, 1906. | |
| 7 | Deep Cove | 2 | O. McLaughlin | 25 p. c. " | April, 1897. | |
| 8 | Southern Head | 3¼ | T. Foster | 25 " " | Dec. 1, 1910. | Southern Head office is now operated by telephone from Seal Cove. |
| | *Branch Lines.* | | | | | |
| | Grand Harbour— | | | | | |
| 9 | Cheney's Island, ½ knot cable | 4¾ | S. E. Russell | 25 " " | Feb. 1, 1891. | |
| 10 | White Head Island, ¾ knot cable | 1½ | Mrs. H. Leary | 50 00 " | July 1, 1910. | |
| | Cable Long Eddy to Herring Cove | 10 | | | | |

## GOVERNMENT TELEGRAPH SERVICE—*Continued.*

### BAY OF FUNDY, N.B., TELEGRAPH SYSTEM—*Continued.*

#### GRAND MANAN AND CAMPOBELLO ISLANDS—*Continued.*

| N | Stations. | Intermediate Distance. | Agents and Operators. | Salaries per Annum. | Date of Appointment. | Memo. |
|---|---|---|---|---|---|---|
| | *Campobello.* | Miles. | | $ cts. | | |
| 1 | Herring Cove Cable Hut to Welch Pool | 4¾ | E. J. Mitchell | 210 00 and commission. | May 1, 1905 | Rent, $60 per annum. Fuel, about $30. |
| | Cable across channel | 1¾ | Wellington Parker, line man | 2 00 per day | | Employed occasionally. |
| 12 | Eastport, Me., U.S.A. | ½ | George H. Cushing | 200 00 | Dec. 26, 1881 | |
| | Totals | 44¼ | | 1,235 00 | | |
| | *Gannet Rock Line.* | | | | | |
| | Seal Cove | 0 | | (See above) | | This line is operated in the interest of the Dept. of |
| 13 | Wood Island (cable) | 1½ | P. Green | 25 p.c. commission | Nov. 7, 1910 | Marine and Fisheries. Tariff to Grand Manan |
| 14 | Little Wood Isld. (cable ½) | 2¼ | T. Ingalls | Accommodation | " 7, 1910 | 15 & 1. Tariff to Campobello and Eastport |
| 15 | Gannet Rock (cable) | 7¾ | Agt. M. & F. | " | " 7, 1910 | 25 & 2. |
| 16 | Partridge Island, Fort Dufferin (cable ¾) | | | | 1900 | |
| | Partridge Island, Fort Dufferin (cable ¾) | | | | 1910 | |
| | Total | 11 | (9¼ knots cable 1¾ miles land line.) | | | |

### CHICOUTIMI AND NORTH OF ST. LAWLENCE TELEGRAPH SYSTEM.

#### CHICOUTIMI—TADOUSAC SECTION.

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | Chicoutimi | 0 | J. D. Villeneuve, insp. | 780 00 | April 1, 1906 | J. P. Rivard, resigned. |
| | | | T. Villeneuve, operator | 660 00 | " 1, 1907 | |
| | | | J. Dubé, operator | 540 00 | June 1, 1912 | |
| | | | A. Blais, messenger | 120 00 | " 1, 1912 | |
| | | | M. Desbiens, cleaner | 72 00 | Aug. 1, 1906 | |
| | | | J. Fortin, repairer | 420 00 | June 1, 1897 | |
| 2 | Ste. Anne | 2½ | Miss A. Gauthier, op'r. | 50 00 | Feb. 1, 1909 | |
| | | | P. Gauthier, repairer | 350 00 | " 1, 1904 | |
| 3 | St. Fulgence | 8 | Rev. G. H. Gagnon, op'r | 50 00 | Jan. 1, 1904 | |

| | | | | | | |
|---|---|---|---|---|---|---|
| 4 | Lac Laurent | 8 | S. Gagnon, operator<br>J. Brisson, repairer | 50 00<br>360 00 | April 1, 1906<br>June 1, 1906 | |
| 5 | Descente des Femmes | 9 | Aug. Villeneuve, op'r. | 50 00 | April 1, 1906 | |
| 6 | Ste. Marguerite Depot | 34 | E. Simard, operator | 50 00 | Aug. 1, 1909 | |
| 7 | Ste. Marguerite | 2 | Alex. Savard, op'r. | 50 00 | Mar. 15, 1912 | |
| 8 | Sacré Cœur | 8 | Miss L. Maltais, op'r.<br>H. Gravel, repairer | 50 00<br>360 00 | April 1, 1906<br>" 1, 1906 | |
| 9 | Tadousac West | 11½ | J. Desmeules, agent | 25 p.c. commission | " 18, 1907 | |
| 10 | Tadousac | 1 | Eugène Caron, agent | | | See North Shore line. |
| | | 84 | | 3,892 00 | | |

## CHICOUTIMI—PERIBONKA SECTION.

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | Chicoutimi | 0 | (See above.) | | | |
| 2 | Ste. Anne | 2½ | " " | | | |
| | To loop | 5½ | | | | |
| 3 | Shipshaw North, loop wire | 4 | J. Murdock, operator | 50 00 | Nov. 1, 1903 | |
| 4 | Shipshaw | 1 | Miss M. Dufour, operat'r | 50 00 | " 1, 1907 | |
| 5 | St. Leonard | 4 | Geo. Gagnon, operator | 50 00 | Sept. 1, 1903 | |
| | To loop | 2 | | | | |
| 6 | St. Ambroise, loop wire | 8 | A. Simard, operator | 50 00 | June 1, 1905 | |
| 7 | St. Charles Borromée | 4½ | B. Bouchard " | 50 00 | Sept. 1, 1903 | |
| 8 | Taché | 7 | Jean Fradette " | 50 00 | Jan. 1, 1908 | |
| 9 | St. Louis de Nazaire, loop | 2⅔ | D. Blackburn | 50 00 | Sept. 23, 1912 | |
| | To loop | 4⅓ | | | | |
| 10 | St. Joseph d'Alma, loop wire | 6 | Elie Gagné, operator<br>Gédéon Verreault, rep. | 50 00<br>360 00 | Jan. 1, 1908<br>Mar. 1, 1909 | |
| 11 | St Cœur de Marie | 6 | Alf. Rousseau, operator | 50 00 | Jan. 1, 1908 | |
| 12 | La Pipe | 6½ | Hypolite Boivin " | 50 00 | " 1, 1908 | |
| 13 | Honfleur | 8 | Charles Lindsay " | 50 00 | " 1, 1909 | |
| 14 | Peribonka | 9 | Mrs. E. Niquette " | 50 00 | " 1, 1909 | |
| | | 81 | | 960 00 | | |

## CHICOUTIMI—LAC CLAIR SECTION.

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | Chicoutimi | 0 | (See above.) | | | |
| 2 | Ste. Anne | 2½ | " " | | | |
| 3 | Range 6 | 3 | | | | |
| 4 | Lac Charles | 3 | A. Dufour | 50 00 | Nov. 1, 1904 | |
| 5 | Lac Clair | 4 | | | | Closed Dec. 12, 1912. |
| | | 12½ | | 50 00 | | |

## GOVERNMENT TELEGRAPH SERVICE—*Continued.*

### MURRAY BAY—BAIE ST. PAUL SECTION.

| No. | Stations. | Intermediate Distance. | Agents and Operators. | Salaries per Annum. | Date of Appointment. | Memo. |
|---|---|---|---|---|---|---|
| | | Miles. | | $ cts. | | |
| 1 | Murray Bay | 0 | Mrs. F. Vincent | | | See North Shore section. |
| 2 | Guay | 5½ | Jos. Demeules, operator | 50 00 | May 1, 1907 | |
| 3 | St. Agnes | 4½ | Jos. Goudreau " | 50 00 | Mar. 1, 1905 | |
| 4 | St. Hilarion | 5 | N. Coulombe " | 50 00 | Sept. 1, 1909 | |
| 5 | St. Urbain | 8½ | J. B. Simard " | | | See Chicoutimi section. |
| | | | A. Gauthier, repairer | | | " " |
| 6 | Baie St. Paul | 9 | F. Boivin, agent | | | " " |
| | | 32½ | | 150 00 | | |

### BAIE ST. PAUL—PETITE RIVIÈRE BRANCH.

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | Bay St. Paul | 0 | F. Boivin | | | See Baie St. Paul, Chicoutimi section. |
| 2 | Petite Rivière (St. François). | 13 | A. Tremblay | 50 00 | May 1, 1912 | Payment at Baie St. Paul, $25 per year and $12 for battery care for operation of this branch to Petite Rivière. |
| | | 13 | | 50 00 | | |

### BAIE ST. PAUL—ST. PLACIDE BRANCH.

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | Baie St. Paul | 0 | F. Boivin | | | See Baie St. Paul, Chicoutimi section. |
| 2 | St. Placide | 8½ | D. Simard | 50 00 | May 1, 1909 | |
| | | 8½ | | 50 00 | | |

## CHICOUTIMI AND NORTH SHORE OF ST. LAWRENCE TELEGRAPH SYSTEM.

### Baie St. Paul—Chicoutimi Section.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Baie St. Paul | | F. Boivin, agent | 420 00 per annum[*] 25 p.c. commission | April | 1, 1885 | Increase from $360, Sept. 1, 1909. *The commission on business is 25 per cent of the Government tolls of the line; the amount guaranteed to be not less than $50 per annum. |
| 2 | St. Urbain | 9 | J. B. Simard, agent | 50 00 or commission | | | |
| | | | A. Gauthier, repairer | 360 00 per annum | July | 1, 1912 | Increase from $270, July 1, 1909. |
| 3 | La Galette | 37 | S. Ouellette | 150 00 or commission | Aug. | 25, 1902 | Salary increased to $150 per annum, June 1, 1907. Plus $25 per year for operating branch line to L'Anse St. Jean. |
| 4 | Ferland | 27½ | | | | | Ferland office closed, July 1, 1911. |
| 5 | St. Alexis | 10 | Mrs. D. Simard | 75 00 or commission | Nov. | 1, 1899 | |
| 6 | St. Alphonse de Bagotville | 3 | Mrs. C. Levesque | 150 00 per annum | June | 1, 1906 | A. Gauthier's division includes the branch line to L'Anse St. Jean. |
| 7 | Chicoutimi | 11½ | | | | | |
| | | 98 | | 1,205 00 | | | †Salary increased to $360 per annum, June 1, 1907. |
| | *Branch Line.* | | | | | | |
| | *St. Alexis* | 0 | Mrs. D. Simard | 75 00 | Jan. | 1, 1912 | P. V. Lavoie resigned Oct. 1, 1911. |
| 8 | St. Felix d'Otis | 10 | A. Gaudreault | 50 00 | Nov. | 1, 1907 | |
| 9 | L'Anse St. Jean | 30 | Eris Degagné, repairer | 350 00 | Sept. | 1, 1903 | |
| 10 | Petite Saguenay | 8 | M. Tremblay | 50 00 | Feb. | 1, 1905 | (This office has been closed since April 30, 1904). |
| 11 | Anse Cheval | 6 | Jos. Degagné | 50 00 | | | |
| 12 | St. Etienne | 7 | | | | | |
| | *St. Catherine Bay* | 17 | G. Boulienne (see North Shore W. B. Line) | | | | |
| | | 78 | | 575 00 | | | |
| | Total | 176 | | 1,830 00 | | | |

### North Shore (West Bersimis).

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Murray Bay | 0 | Mrs. F. Vincent, operator | 50 00 or commission | April | 1, 1885 | Plus $25 per year, and $12 for battery care for operation of branch to Guay. |
| 2 | Cap à l'Aigle | 4 | Miss S. Bergeron, operat. | 50 00 " | June | 1, 1905 | |
| 3 | St. Fidèle | 6 | R. Dallaire, operator | 50 00 " | April | 1, 1912 | |
| 4 | Port au Persil | 7 | A. Villeneuve, operator | 50 00 " | Feb. | 1, 1913 | |
| | | | Thos. McLaren, repairer | 420 00 | May | 1, 1912 | |
| 5 | Cap Saumon Light (Loop from St. Siméon) | 2 | Delph. Bouchard, operat. | 50 00 or commission | April | 1, 1910 | |
| 6 | St. Siméon | 4 | Jos. Morin | 50 00 " | Aug. | 1, 1912 | |
| 7 | Baie des Rochers | 12 | F. Bouchard, operator | 50 00 " | Sept. | 1, 1912 | |
| 8 | St. Catherines Bay | 18 | G. Boulianne, repairer | 420 00 | Nov. | —, 1886 | Salary increased to $420 March 1, 1912. |
| | | | Mde. D. Boulianne, oper. | 240 00 | | | |

## GOVERNMENT TELEGRAPH SERVICE—*Continued.*

### CHICOUTIMI AND NORTH SHORE OF ST. LAWRENCE TELEGRAPH—*Continued.*

NORTH SHORE (West of Bersimis)—*Continued.*

| No. | Stations. | Intermediate Distance. | Agents and Operators. | Salaries per Annum. | Date of Appointment. | Memo. |
|---|---|---|---|---|---|---|
| | | Miles. | | $ cts. | | |
| 9 | Tadousac (1½ knot cable). | 1¾ | J. E. Caron, operator... | 360 00 | Nov. 1, 1888 . | |
| 10 | Bergeronnes | 10 | Mde. M. Savard, operat. | 50 00 or commission | April —, 1885.... | |
| 11 | Bon Désir | 5 | Mde. E. Gauthier, oper.. | 50 00 " | Aug. 1, 1904.... | |
| 12 | Escoumains | 12 | J. H. Topping, operator. | 50 00 " | Aug. 1, 1885.... | |
| 13 | Baie des Bacons | 8 | P. Bouchard, operator... | | May 6, 1902.... | Commission 25 per cent without guarantee. |
| 14 | Sault au Mouton | 6 | C. E. Nolet, operator. .. | 50 00 or commission | Nov. 1, 1906.... | |
| 15 | Mille Vaches | 2 | Mde. L. Puize, operator. | 50 00 " | Aug. 1, 1907.... | |
| 16 | Portneuf | 11½ | Leandre Bouchard, oper. | 50 00 " | July 1, 1890.... | |
| | | | E. Courbron, repairer... | 420 00 | April 1, 1888.... | |
| 17 | Hamilton Cove | 1 | Albert Topping, operator | 25 p.c. commission | Sept. 1, 1903.... | Accommodation office. |
| 18 | Sault au Cochon | 7 | | | | Closed Sept. 30, 1896. |
| 19 | Bersimis West | 31 | Mrs. F. Miller, operator. | 50 00 or commission | | |
| | | | E. Pope, Dist. Supt.... | 2,400 00 | April 1, 1885.... | Including general accounting, and supervision of stores at Quebec. |
| | Total | 147¾ | | 4,960 00 | | |

* NOTE.—In the estimates, the maintenance of the Chicoutimi and North Shore line is provided under head of North Shore Line. They are operated conjointly.

NORTH SHORE (East of Bersimis).

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | Bersimis East | 5 | A. Maloney, agent | 550 00 | Sept. 21, 1896... | |
| | | | Mrs. A. Maloney, asst. opr | 200 00 | July 1, 1906.... | Repeating office and 2 main batteries. |
| | | | Jos. Gagnon, repairer... | 420 00 | Aug. 12, 1906.... | Plus 50 cents per day when absent on duty. |
| 2 | Point aux Outardes | 29 | Miss G. Ross, operator. | 50 00 or commission | Jan. 1, 1910.... | |
| | | | D. Malouin, repairer.... | 420 00 | June 14, 1907.... | Plus 50 cents per day when absent on duty. |
| 3 | Point Paradis | 18 | | | | |
| 4 | Manicouagan | 14 | P. Martel and his son... | 25 p.c. commission | Sept. 26, 1910.... | |
| 5 | Mistassini | 22 | W. Montreuil, operator lineman | 420 00 | Oct. 23, 1908.... | Plus 50 cents per day when absent on duty. |
| 6 | River Godbout | 26 | N. A. Comeau | 50 00 or commission | Oct. 15, 1885.... | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 7 | River Godbout West | ½ | N. A. Comeau, repairer. | 450 00 | " | July | 1, 1912 | |
| 8 | Point des Monts | 18½ | Victor Faffard | 50 00 | " | Dec. | 28, 1883 | |
| 9 | Trinity Bay West | 5½ | Jos. Poulin | 50 00 | " | May | 16, 1884 | |
| 10 | Trinity Bay East | 2½ | A. Bilodeau | 25 p.c. commission | | May | 1, 1889 | |
| 11 | Caribou Island | 7 | Mrs. E Chouinard | 25 | " | Oct. | 19, 1905 | |
| 12 | Egg Island Light | 8½ | T. Pelletier | Accommodation | | | | No commission paid. Telephone only with Pentecost office. |
| | Pointe aux Anglais | 2 | | 25 p.c. commission | | | 1895 | Cable from Egg Island. |
| 13 | Pentecost | 6½ | Jos. Picard | 310 00 per annum | | Sept. | 20, 1911 | Main battery. |
| 14 | May Islands | 9 | E. Paulin | 25 p.c. commission | | Aug. | 19, 1912 | |
| 15 | Ste. Marguerite | 38½ | A. Therriault | 180 per annum | | July | 1, 1888 | Also as line repairer for 40 miles from Hall to Rock Rivers. |
| 16 | Clark City | 5 | North Shore Power, Railway and Navigation Company | 25 p.c. commission | | April | 17, 1903 | |
| 17 | Seven Islands | 17¾ | P. E. Vignault, agent | 180 00 and 25 p.c. com. | | Jan. | 2, 1884 | Also see to small repairs when trouble between Hall and Moisie Rivers. |
| | " | | P. C. Vignault, gnl. rpr. | 540 00 | | Jan. | 12, 1912 | Plus 50 cents per day when absent on duty. |
| 18 | Moisie West | 14½ | Mrs. Chicoine, operator | 50 00 or commission | | June | 1, 1906 | |
| 19 | Moisie East | 1 | Holliday Bros | 50 00 | | | | In operation during fishing season |
| 20 | Pigou | 28 | Peter Wright, repairer | 112 00 | | Oct. | 1, 1902 | |
| | | | Mrs. P. Wright, operator | 100 00 | | Oct. | 1, 1902 | |
| 21 | Rivière aux Graines | 29 | Miss A. Blaney, operator | 50 00 | | Oct. | 6, 1910 | Agt. M. Langlois, $12 per year for office rent. |
| 22 | Sheldrake | 15 | Mrs. A. Girard, operator | 50 00 | | Dec. | 1, 1904 | Agt. A. Girard, $12 per year for office rent. |
| 23 | Thunder River | 6½ | Mrs. H. Cody, operator | 50 00 | | Feb | 1, 1890 | $12 per month for care of main battery and $12 per year for office rent. |
| 24 | Magpie | 14 | Geo. Poirier, operator | 50 00 | | Sept. | 17, 1905 | Agt. G. Poirier, $12 per year for office rent. |
| 25 | St. John River | 9 | Ben. Chambers, operator | 50 00 | | Oct. | 1, 1899 | Agt. B. Chambers, $12 per year for office rent. |
| 26 | Long Point of Mingan | 10 | E. H. Tetu, Dist. Supt. | 1,080 00 | | Nov. | 1, 1891 | |
| | | | Mrs. E. H. Tetu, op'r. | 300 00 | | Nov. | 1, 1903 | Repeating office for Anticosti cable in operation since Sept. 1, 1891 (3 main batteries), repeaters. |
| | | | J. V. Guay, agent | 500 00 | | Nov. | 1, 1910 | |
| | | | Mrs. Guay, asst. | 180 00 | | | | |
| 27 | Mingan | 7 | Mrs. C. Maloney, op'r. | 100 00 | | | | Salary increased to $100 per annum, March 31, 1907. |
| 28 | Point Esquimaux | 24 | Mrs. E. Cyr, operator | 240 00 | | Sept. | 1, 1897 | |
| | | | E. Cyr, repairer | 500 00 | | Nov. | 2, 1902 | Main battery. Plus 50 cents per day when absent on duty. Extra allowance at Esquimaux Point Telegraph, $48 a year for office rent; $40 a year for firewood; $24 a year for storage; 25 p.c. commission. |
| 29 | Betchouanes | 20 | A. Boudreau, op'r and rep | 212 00 | | May | 27, 1912 | At Pt. Esquimaux, Govt. Tel. supply agent Alfred Landry, from Betchouan eastward, salary $60 per year. |
| 30 | Piastre Bay | 23 | Mrs. J. Beetz, operator | 100 00 | | Sept. | 18, 1902 | |
| | | | S. Tanguay, repairer | 112 00 | | Sept. | 18, 1902 | |
| 31 | Watichou | 15 | Mrs. Cl. Bourque, op'r. | 100 00 | | Dec. | 1, 1903 | |
| | | | John Bourque, repairer | 112 00 | | Dec. | 1, 1903 | |
| 32 | Aguanus | 21¾ | Mrs. Galant, operator | 100 00 | | Sept. | 3, 1902 | |
| | | | S. Galant, repairer | 112 00 | | Sept. | 3, 1902 | |

## GOVERNMENT TELEGRAPH SERVICE—*Continued.*

### CHICOUTIMI AND NORTH SHORE OF ST. LAWRENCE TELEGRAPH SYSTEM—*Continued.*

#### NORTH SHORE (East of Bersimis)—*Continued.*

| No. | Stations. | Intermediate Distance. | Agents and Operators. | Salaries per Annum. | Date of Appointment. | Memo. |
|---|---|---|---|---|---|---|
| | | Miles. | | $ cts. | | |
| 33 | Natashquan | 21 | Miss Vignault, op'r | 50 p.c. commission | Sept. 5, 1905 | |
| | | | C. Vignault, repairer | 112 00 | Sept. 5, 1902 | Main battery, $12 per year. |
| 34 | Kegaska | 33 | Miss Anderson, opr | 100 00 | Sept. 6, 1902 | |
| | | | Geo. Anderson, repairer | 112 00 | Sept. 6, 1902 | |
| 35 | Masquaro | 18 | J. L. Osborne, insp. | 500 00 | Nov. 6, 1910 | Plus 50 cents per day when absent on duty. |
| | | | Mrs. Jennis, operator | 100 00 | April 1, 1906 | |
| | | | Wm. Foreman, repairer | 112 00 | June 1, 1903 | |
| 36 | Romaine | 25 | Mrs. A. Guillemette, opr. | 100 00 | Sept. 17, 1902 | |
| | | | M. Blais, repairer | 112 00 | Sept. 17, 1902 | |
| 37 | Wolf Bay | 24 | Mrs. R. Jones, operator | 100 00 | Nov. 26, 1902 | |
| | | | R. Jones, repairer | 150 00 | Nov. 26, 1902 | |
| 38 | Point au Maurier | 24 | Miss P. Galibois, opr | 100 00 | Sept. 19, 1902 | |
| | | | J. Galibois, repairer | 112 00 | Sept. 19, 1902 | |
| 39 | Harrington | 20 | Mrs. Jones, operator | 125 60 | Sept. 20, 1902 | Tel. allowance $25 per year for repeating messages with Harrington Island since June 15, 1909. |
| | | | J. Jones, repairer | 112 00 | Sept. 20, 1902 | |
| 40 | Whale Head | 17 | Amédée Vignault, operator and repairer | 212 00 | | |
| 41 | Mutton Bay | 20 | Mrs. A. Landry, agt.-opr. | 444 00 | Aug. 1, 1911 | |
| 42 | Baie de Ha ! Ha ! | 27 | Mrs. J. Monger, opr | 100 00 | June 14, 1901 | |
| | | | J. Monger, repairer | 112 00 | June 14, 1901 | |
| 43 | St. Augustine | 27 | G. W. Burgess, rep. & opr. | 212 00 | Sept. 25, 1902 | Hudson Bay Co. post. |
| 44 | Chicatica Bay | 24 | Miss Esther Robin | 100 00 | June 30, 1906 | |
| | | | George Robin | 112 00 | June 30, 1906 | |
| 45 | Rocky Bay | 15 | James Kennedy, opr. and repairer | 212 00 | July 27, 1911 | |
| 46 | Old Fort Bay | 15 | J. Fequet & son William | 25 p.c. commission | Mar. 29, 1911 | |
| 47 | Bonne Espérance | 7 | G. Chevalier, repairer | 112 00 | Oct. 2, 1902 | |
| | | | Miss Chevalier operator | 110 00 | Oct. 2, 1902 | |
| 48 | Brador Bay | 29 | | 112 00 | | J. Jones retaking charge Oct. 27, 1910, as opr. and sent his resignation for 1st April, 1911. |
| | | | Cyrille Joncas, repairer | 110 00 | Oct. 10, 1909 | |
| | | | A. Cormier, gen. rep. | 500 00 | Aug. 16, 1910 | Plus 50 cents when absent on duty. |
| 49 | Long Pt. of Blanc Sablon | 3 | " agent | 25 p.c. commission | Sept. 1, 1911 | |
| 50 | Blanc Sablon | 3 | Thos. Morel, operator | 212 00 | Oct. 1, 1902 | |
| 51 | Forteau Bay | 13 | A. Hart, rep. and opr. | 212 00 | July 19, 1902 | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 52 | Pointe Amour | 17 | Thos. Whyatt, rep. and operator | 112 00 | Feb. | 17, 1903 | Main battery removed from West St. Modeste to Pt. Amour on Oct. 5, 1909, allowance $50 per yr. |
| 53 | West St. Modeste | 16 | Jas. Bolger, rep. and opr. | 212 00 | Oct. | 5, 1902 | |
| 54 | Red Bay | 13 | Geo. Moore, repairer | 112 00 | Oct. | 9, 1902 | |
| | | | Miss Moore, operator | 100 00 | Oct. | 9, 1902 | |
| 55 | Chateau Bay | 30 | J. Bolger | | | | Office open Aug.-Oct., 1912. Salary, $35 per month. |
| 56 | Belle Isle (cable) | | | | | | Cable removed June 18 1909. |
| | Totals | 1,061¼ | | 3,675 00 | | | |

## LINE REPAIRERS, SECTIONS AND MILEAGE MURRAY BAY TO CHATEAU BAY.

| | | Mileage. |
|---|---|---|
| A. Villeneuve, repairer | Murray Bay to Baie des Rochers | 35 |
| G. Boulianne, repairer | Baie des Rochers to Bergeronnes | 29½ |
| G. Boulianne, repairer | St Catherines Bay to St. Etienne branch line | 17 |
| Ed. Courbron, repairer | Bergeronnes to Rivière Colombier (16 miles west of Bersimis) | 67½ |
| Jos. Gagnon, repairer | Rivière Colombier to West Crossing Rivière aux Outardes (24 miles east of Bersimis) | 40 |
| David Malouin, repairer | East Crossing of Rivière aux Outardes to English Bay (7 miles east of Manicouagan) | 44 |
| Wm. Montreuil, repairer | English Bay to St. Nicholas Harbour (14 miles west of Godbout) | 27 |
| N. A. Comeau, repairer | St. Nicholas Harbour to Pointe des Monts | 32½ |
| P. C. Vigneault, gen. repairer | Pointe des Monts to Thunder River | 196¼ |
| Ed. Cyr, gen. repairer | Thunder River to Kegaska | 197¼ |
| J. L. Osborne, gen. repairer | Kegaska to St. Augustine | 202 |
| A. Cormier, gen. repairer | St. Augustine to Chateau Bay | 185 |
| | | 1,073¼ |

## GOVERNMENT TELEGRAPH SERVICE—*Continued.*

### GROSSE ISLE QUARANTINE TELEGRAPH SYSTEM.

| No. | Stations. | Intermediate Distance. | Agents and Operators. | Salaries per Annum. | Date of Appointment. | Memo. |
|---|---|---|---|---|---|---|
| | | Miles. | | $ cts. | | |
| 1 | Quebec | 0 | Great Northwestern Telegraph Co. | 185 00 | | This amount is paid for supervision of the line, and covers rent of pole line from Quebec to L'Ange Gardien, for which $35 per annum is charged |
| | *L'Ange Gardien* | 13 | | | | |
| | *Orleans Island (cable)* | | | | | |
| 2 | St. Pierre | 4½ | E. Gendreau | 50 00 or commission. | Dec. 1, 1910. | This commission is 25 p. c. of the Government line tariff in each instance, and guaranteed to amount to not less than $50 per annum. |
| 3 | St Petronille | 3½ | Desneiges Plante | 50 00 " | Oct. 1, 1896. | |
| 4 | St. Laurent | 6½ | M. Gobeil | 120 00 and 25 per cent commission. | Sept. 15, 1888. | |
| 5 | St. Jean | 7 | P. Pouliot, dist. supt | 1,120 00 & 25 per cent commission. | Nov. 1, 1907. | For local agency. Dist. Supt. and repairer. |
| 6 | St. François | 6¾ | Helene Lemelin | 50 00 or commission. | Oct. 1, 1907. | |
| 7 | Isle Reaux (including 2 knots cable). | 3¾ | | | | |
| | Isle Reaux (land line) | 2½ | | | | |
| 8 | Grosse Isle Quarantine office (including 2 knots cable). | 3½ | A. Dancause | 540 00 | Nov. 1, 1912. | $5 per month for messenger service in summer and $12 per annum allowed for care of main batt. at Grosse Isle. |
| | Quarantine telephone system, 2 wire line. | 1¾ | | | | NOTE—The telephone system on Grosse Isle since May, 1893, has comprised 1¾ miles of 2 wire line with 25 connections or stations. |
| | Grosse Isle to Crane Island including 5 knots cable. | 8 | Hector Lavoie | 50 00 or commission. | Feb. 1, 1912. | |
| | | | Fenelon Pinchard | accommodation. | " " | |
| | | | Olivier Gagné | " | " " | Connection with the Bell Telephone System at Montmagny. Four stations on Crane Island. |
| 9 | Crane Island to Montmagny (cable). | 5 | Désiré Vezina | Signal Service Lighthouse | Sept. 1, 1909. | |
| | *Loop Line* (2 wires). | | | | | |
| 10 | St. François—St. François Nord | 5 | J. Asselin | 50 00 or commission. | | |
| 11 | St. Jean—Ste. Famille | 5½ | N. Pichette | 50 00 " | Dec. 1, 1912. | |
| | Totals | 76¼ | | $2,265 00 | | |

NOTE—In addition to the above, there is included in the Quarantine Dist. Superintendency the undermentioned lines :—

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | *Telephone Lines.* | | | | | | |
| | Les Eboulements | 0 | .... | ..... | ..... | | Leased to the Charlevoix and Saguenay Telephone Company. |
| | Ile aux Coudres (cable) | 3 | | | | | |
| | On Ile aux Coudres | 10 | | | | | |
| | | 13 | | | | | |

## ORLEANS ISLAND TELEPHONE LINE.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | St. Pierre | 0 | Francis Côté | 50 00 or commission | July | 1, 1911 | |
| 2 | Ste. Pétronille | 3¼ | Desneiges Plante | 240 00 | April | 1, 1911 | Allowance of $6 per month for messenger service. |
| 3 | St. Laurent | 6½ | Laurent Godbout | 50 00 or commission | July | 1, 1911 | |
| 4 | St. Jean | 7 | Pierre Pouliot | 50 00 " | Dec. | 1, 1910 | |
| 5 | St. François | 6¾ | Xavier Lepage | 50 00 " | July | 1, 1912 | Government line connects with the Bell Telephone Co.'s line at L'Ange Gardien. Exchange connections made at Ste. Pétronille. |
| 6 | St. François-Nord | 5 | Frs. Lessard | 50 00 " | Dec. | 1, 1910 | |
| | *Branch.* | | | | | | |
| 7 | St. Jean—Ste. Famille | 5½ | Jos. Premont | 50 00 " | Dec. | 1, 1910 | |
| | | 34 | Pole line : 34 miles | Wire : 68 miles. | | | |

## BEAUPORT-LAVAL TELEPHONE LINE.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Beauport | 0 | Bell Telephone Co | .... | ..... | | Connection at Beauport with the Bell Telephone System. |
| 2 | Ste. Thérèse | 2 | N. Bédard | 25 p. c. commission | Jan. | 1, 1912 | |
| 3 | Vallière's Mill | 5½ | A. Vallière | 50 p. c. " | Feb. | 1, 1910 | |
| 4 | Laval | 7½ | Rev. E. Giroux | Accommodation. | | | |
| 5 | Laval | .... | Mrs. Touchette | 50 00 | Feb. | 1, 1910 | *Commission is on Government line tolls only, and at Laval and Vallières Mill is guaranteed at the rate of $50 per year. |
| | Total | 15 | | | | | |

## GOVERNMENT TELEGRAPH SERVICE—*Continued.*

### TIMISKAMING DISTRICT TELEPHONE LINES.

| No. | Stations. | Intermediate Distance. | Agents. | Salaries per annum. | Date of Appointment. | Memorandum. |
|---|---|---|---|---|---|---|
| 1 | Kippewa Dam | 0 | J. A. Boisvert, Agent | 25% Commission | May 20, 1911 | |
| | Denis | 14½ | | | | |
| 2 | Fabre | 6 | L. Valiquette, Agent | 25 " | May 20, 1911 | |
| 3 | Ville-Marie | 13 | J. Samson, Agent | 25 " | May 17, 1911 | Resigned Sept. 15, 1911. |
| | | | Mrs. L. Lepage, Agent | 25 " | Sept. 15, 1911 | Guaranteed commission to $50 per annum. |
| | | | J. Dumulon, Supt. and General Repairer | $65.00 per month | Nov. 13, 1911 | And expenses while out on repair work. |
| 4 | Lorrainville | 5 | N. Legault, Agent | 25% Commission | Sept. 1, 1911 | |
| 5 | St. Eugène | 13½ | J. Bedard, Agent | 25% " | Sept. 1, 1911 | |
| 6 | Camp "B" | 7½ | | | | |
| 7 | Camp "A" Quinze Dam | ½ | P. Carrière, Agent | 25 " | Mar. 1, 1912 | Previous to March 1, 1912, office was in charge of Mr. G. B. Hull, Engineer in Charge Construction Quinze Dam. |
| 8 | Camp "C" | 5 | | | | |
| 9 | North Timiskaming | 13½ | J. R. Monaghan, Agent | 25% " | Aug. 1, 1911 | $75 per year is paid Mr. Monaghan for office rent and Exchange Connection with Timiskaming Telephone Company's Line. |
| | *Branch.* | | | | | |
| | Ville Marie | 0 | | | | |
| | St. Isidore | 3½ | J. N. Legault | 25 " | Dec. 1, 1912 | (Branch starts from main line 10 miles N. E. of Ville Marie). |
| | | 82 | | | | |

## GOVERNMENT TELEGRAPH SERVICE—*Continued.*

### ONTARIO- PELEE ISLAND TELEGRAPH SERVICE.

STATEMENT Showing List of Offices, Operators or Agents, Commissions or Salaries, and Summary of Messages exclusive of free messages. From March 31, 1912, to March 31, 1913.

| No. | Station. | Intermediate distance. | Agents and Operators. | Salaries per Annum. | Messages. | | Date of Appointment. | Memo. |
|---|---|---|---|---|---|---|---|---|
| | | | | | Sent. | Rec'd. | | |
| 1 | Dis't. Supt's. House | 0 | J. McR. Selkirk, Dist. Supt. | $50 00 per annum | | | | Private Instrument. |
| 2 | Leamington Office | 0 | " " " | Commission 20 p.c. | 587 | 670 | Nov. 1, 1888 | |
| | " " " | 2 1/8 | To Cable Landing (Mainland) | | | | Aug. —, 1901 | Near Leamington Dock. |
| | Mainland to Pelee Island | 17 1/4 | Cable to Island | | | | Nov. 1, 1888.. / Aug. —, 1901.. | Near (Scudder) North Dock. |
| 3 | North Dock (Scudder) | 0 | C. B. Quick | Commission 25 p.c. | 148 | 102 | Nov. 1, 1888 | |
| 4 | North Point Lighthouse | 3 | J. R. Lidwell | " " | 4 | 1 | June 1, 1899 | |
| 5 | Station 31 | 1/4 | F. Cree | " " | 16 | 12 | Oct. 28, 1909 | |
| 6 | Ouellette's | 1 3/4 | A. J. Ouellette | " " | 81 | 28 | June 19, 1908 | |
| 7 | Pelee Club | 0 | Pelee Club (Island) | Accommodation Office | 48 | 73 | May —, 1910 | Private Instrument. Pays for messages at Leamington Office. |
| 8 | W. J. McCormick | | W. J. McCormick | " " | | | | Private Instrument. |
| 9 | Hotel (Station 32) | 2 3/4 | John R. Beattie | Commission 25 p.c. | 93 | 99 | April 9, 1909 | |
| 10 | Dr. Bell | | Dr. Bell | Accommodation Office | | | April 9, 1909 | Formerly Dr. Van Epp. |
| 11 | West Dock | 1/4 | A. M. McCormick | Commission 25 p.c. | 143 | 109 | Nov. 1, 1888 | |
| 12 | Srigley or Grove Ave. | 3 | Catharine Srigley | " " | 44 | 28 | Nov. 12, 1908 | |
| 13 | Pelee South | 2 | J. S. McCormick | " " | 40 | 47 | Aug. 1, 1904 | |
| 14 | Baird's House (Leamington) | 2 3/4 | A. Baird | " " | | 3 | Nov. 2, 1904 | |
| 15 | Jackson & Moss (Pt. Pelee) | 5 | Jackson & Moss | " " | 7 | 2 | Mch. 25, 1910 | Near Old Club House site. |
| 16 | Edward Ford | | Edward Ford | Accommodation Office | | | Oct. 2, 1912 | Deputy Game & Fish Warden. |
| 17 | Baird's House | 2 1/2 | V. Ainslie | " " | | | June 23, 1909 | |
| 18 | Tilden's | 1/4 | W. Tilden | Commission 25 p.c. | 31 | 30 | April 29, 1905 | |
| 19 | Point Pelee | 2 1/2 | W. A. Grubb | " " | 15 | 47 | Nov. 1, 1888 | |
| | | 45 3/4 | | | 1,257 | 1,257 | | |

## GOVERNMENT TELEGRAPH SERVICE—*Continued.*

### NORTH WEST TELEGRAPH LINES—QU'APPELLE-EDMONTON SECTION.

| No | Stations. | Intermediate Distance | Agents and Operators. | Salaries per annum. | Date of Appointment. | Memo. |
|---|---|---|---|---|---|---|
| | | | | $ cts. | | |
| 1 | Qu'Appelle | 0 | E. P. Benoit | 120 00 | Jan. 1, 1911. | |
| 2 | Fort Qu'Appelle | 17 | P. R. Elmer | 960 00 | Aug. 15, 1906 | Salary increased Aug. 1, 1912. |
| | Fort Qu'Appelle | | D. Sutherland, lineman | 900 00 | Dec. 1, 1909 | Salary increased Aug. 1, 1912. |
| | Lipton to Loop | 10 | | | | |
| 3 | Lipton | 1 | Can. Pac. Ry | 10 p.c. commission | May 1, 1906 | Agent joint with C.P.R. |
| | To Main line | 1 | | | | |
| 4 | Kutawa | 45 | A. Von Lindeburgh | 900 00 | Nov. 1, 1883 | Salary increased Aug. 1, 1912. |
| 5 | South Humboldt | 78 | H. J. Macdonald | 900 00 | Feb. 1, 1904 | Salary raised Aug. 1, 1912. |
| | To Loop | 55 | | | | |
| 6 | Saskatoon | 14 | J. H. Murphy | 1,020 00 | Jan. 18, 1913 | C. Webster transferred to Battleford |
| | | | G. T. Clement, lineman | 900 00 | Oct. 16, 1903. | |
| | | | Can. Pan. Ry. Messenger | 120 00 | May 1, 1911. | |
| | To Main line | 14 | | | | |
| 7 | Henrietta | 38 | W. J. Salsbury | 900 00 | Oct. 1, 1886 | Salary increased Aug. 1, 1912. |
| 8 | Battleford | 47 | J. B. Noel | 960 00 | Oct. 1, 1900 | Salary increased Aug. 1, 1912. |
| | " | | H. C. Rogers, lineman | 900 00 | Oct. 10, 1911 | Salary increased Aug. 1, 1912 |
| | " | | C. Webster, Asst. Agt | 900 00 | June 27, 1910 | Transferred from Saskatoon. |
| | " | | E. Bidart, Messenger | 240 00 | Feb. 1, 1913 | H. Gibson, resigned. |
| 9 | Bresaylor | 28 | J. T. Callahan | 720 00 | Dec. 1, 1900. | |
| | To Loop | 67½ | | | | |
| 10 | Lloydminster | 29 | S. DeCoste | 720 00 | June 26, 1912 | A. Bowtell transferred to Mooswa. |
| | " | | G. G. Mann, lineman | 900 00 | Aug. 1, 1902 | Salary increased Aug. 1, 1912. |
| | To Main Line | 29 | | | | |
| 11 | Onion Lake | 13 | H. McCleneghan | 960 00 | Aug. 1, 1899 | Salary increased Aug. 1, 1912. |
| 12 | Frog Lake | 23 | E. A. Bowtell | 600 00 | March 1, 1911. | |
| 13 | Mooswa | 12 | A. Bowtell | 720 00 | Dec. 1, 1907 | J. A. McCartney resigned. |
| 14 | Elk Point | 21½ | E. O. Boyd | 25 p. c. commission | April 1, 1910 | Office closed, E. O. Boyd transferred to Rife. |
| 15 | St. Paul de Métis | 17½ | J. A. Gagnon | 900 00 | May 1, 1909 | Salary increased Aug. 1, 1912. |
| 16 | Saddle Lake | 18 | C. B. Ingraham | 900 00 | July 1, 1912 | Transferred from Mirror Landing, J. W. Carroll resigned at Saddle Lake. |
| 17 | Pakan | 36 | R. McAdam | 720 00 | Feb. 1, 1905 | Salary increased Aug. 1, 1912. |
| | To Loop | 5 | | | | |
| 18 | Andrew | 5 | L. Carey | 720 00 | Nov. 15, 1910 | Salary increased Aug. 1, 1912. |
| | " | | C. Norn, lineman | 900 00 | March 15, 1906 | Salary increased Aug. 1, 1912. |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 19 | Whitford | 7 | Postmaster | 25 p.c. commission | July | 1, 1905 | |
| | Andrew to Main Line | 5 | | | | | |
| | To loop | 20 | | | | | |
| 20 | Lamont | 3½ | B. DeMarsh | 720 00 | July | 1, 1912 | J. M. Royer resigned. |
| | To main line | 3½ | | | | | |
| 21 | Fort Saskatchewan | 24 | W. G. Shera | 720 00 | July | 1, 1912 | A. W. Campbell resigned. |
| 22 | Edmonton | 18 | G. Wilder | 1,080 00 | Dec. | 1, 1908 | Salary increased Aug. 1, 1912. |
| | " | | O. St. John assist. agt. | 900 00 | Oct. | 15, 1912 | |
| | " | | C. McGraw, messenger | 240 00 | Oct. | 12, 1912 | |
| | " | | W. Wilson, messenger | 240 00 | June | 1, 1912 | A. Duplessis resigned. |
| | " | | H. Hunt, clerk | 1,080 00 | Jan. | 22, 1912 | Salary increased, Aug. 1, 1912. |
| | " | | A. W. Cass, lineman | 900 00 | June | 19, 1912 | J. H. Young resigned. Salary increased Aug. 1, 1912. |
| | " | | R. C. Macdonald, supt. | 2,300 00 | Oct. | 1, 1905 | |
| | " | | J. S. Macdonald, inspect. | 2,500 00 | June | 1, 1905 | |
| | Total | 705½ | | 29,160 00 | | | |

## EDMONTON-PEACE RIVER SECTION.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Edmonton | 0 | Proceeding table | | | | |
| 1 | Halfway Lake | 49 | J. C. Egge | 25 p.c. commission | Jan. | 1, 1910 | |
| 2 | Athabasca Landing | 49 | E. J. Kane | 900 00 | July | 29, 1912 | J. McKernan resigned. |
| | " | | A. Parry, lineman | 900 00 | April | 1, 1912 | J. Minns resigned. |
| | " | | H. Neys, messenger | 240 00 | Dec. | 1, 1912 | H. Minns resigned. |
| 3 | Mirror Landing | 70 | J. M. Royer | 900 00 | Oct. | 19, 1912 | J. A. Jacques resigned. |
| | " | | H. Hautebergue, lineman | 900 00 | Dec. | 19, 1912 | Transferred from Dunvegan. |
| 4 | Sawridge | 38 | C. J. Schurter | 900 00 | Oct. | 7, 1910 | |
| 5 | Grouard | 78 | R. M. Osborn | 900 00 | July | 1, 1912 | V. F. MacLeod resigned. |
| | " | | G. E. MacLeod, chief lineman | 1,020 00 | Nov. | 6, 1906 | |
| | " | | H. Knibbs, messenger | 240 00 | April | 1, 1912 | |
| 6 | Peace River | 83 | P. Gauvreau | 900 00 | Oct. | 16, 1911 | |
| | " | | F. Anderson, lineman | 900 00 | Oct. | 23, 1912 | C. Banford resigned. |
| 7 | Fairview | 62 | H. L. Propst | 25 p.c. commission | June | 1, 1912 | New office. |
| 8 | Dunvegan | 12 | A. Vaillancourt | 900 00 | Nov. | 11, 1912 | N. Coleman transferred to Lake Saskatoon. |
| 9 | Spirit River | 15 | W. R. Holden | 900 00 | July | 1, 1912 | New Office. |
| | To loop | 53 | | | | | |
| 10 | Grand Prairie City | 8 | J. H. Byrne | 900 00 | Sept. | 2, 1912 | Transferred from Lake Saskatoon (new office). |
| | To Main line | 8 | | | | | |
| 11 | Lake Saskatoon | 8 | G. Coleman | 900 00 | March | 20, 1913 | N. Coleman resigned. |
| | " | | C. Banford, lineman | 900 00 | March | 5, 1913 | W. Lovell resigned. |
| | Total | 533 | | 13,200 00 | | | |

## GOVERNMENT TELEGRAPH SERVICE—*Continued.*

### NORTH-WEST TELEGRAPH LINES—*Continued.*

#### ST. PAUL DE METIS—DURLINGVILLE SECTION.

| No. | Stations. | Intermediate Distance. | Agents and Operators. | Salaries per Annum. | Date of Appointment. | Memo. |
|---|---|---|---|---|---|---|
| | | Miles. | | $ cts. | | |
| | St. Paul | 0 | Main line table | | | |
| 1 | Rife | 24 | E. O. Boyd | 900 00 | Nov. 26, 1912 | New office. |
| 2 | Durlingville | 24 | L. T. McLeod | 600 00 | July 22, 1912 | " |
| | | 48 | | 1,500 00 | | |

#### MOOSEJAW—WOOD MOUNTAIN SECTION.

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | Moosejaw | 0 | J. Lovelace | 900 00 | May 1, 1911 | |
| | " | | C. P. R. Messenger | 120 00 | July 1, 1911 | |
| | " | | C. P. R. Battery | 120 00 | Feb. 1, 1912 | |
| 2 | Expanse | 39 | G. T. Brown | 900 00 | Sept. 20, 1912 | A. F. Macdonald resigned. |
| | " | | J. Gagnon, lineman | 900 00 | Jan. 27, 1912 | |
| | To loop | 25 | | | | |
| 3 | Gravelburg | 19 | J. A. Hamelin | 900 00 | Sept. 8, 1910 | |
| | To main line | 19 | | | | |
| 4 | Limerick | 13 | Myrtle Crosson | 600 00 | Nov. 8, 1913 | E. R. Lossing resigned. |
| | To loop | 3 | | | | |
| 5 | Assiniboia | 14 | R. Hodgson | 900 00 | Sept. 14, 1912 | New office. |
| | To main line | 14 | | | | |
| 6 | Wood Mountain | 27 | J. H. Thomson | 900 00 | Dec. 1, 1890 | Salary increased Aug. 1, 1912. |
| | " | | F. Brown, lineman | 900 00 | Nov. 1, 1905 | " " |
| 7 | Elm Springs | 13 | John Thomson | 25 per cent commission. | | Office closed. |
| 8 | Willow Bunch | 26 | M. A. Noel | 900 00 | Oct. 19, 1904 | Salary increased Aug. 1, 1912. |
| | | 212 | | 8,040 00 | | |

#### BATOCHE—DUCK LAKE LINE.

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | Batoche | 0 | | | | These offices are closed temporarily. See my letter to G. S., June 25, 1912, and G. S. letter, July 23, 1912 (File C. 897.) |
| 2 | Duck Lake | 9 | | | | |

## Battleford-Isle La Crosse Section.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Battleford | 0 | Main Line table | | | | |
| 1 | North Battleford | 4 | F. J. Colmer | 900 00 | | Nov. 11, 1912 | New office. |
| | To loop | 21 | | | | | |
| 2 | Meota | 10 | O. S. Tenny | 900 00 | | Nov. 15, 1912 | New office. |
| | To Main line | 10 | | | | | |
| 3 | Glaslyn | 30 | A. G. McCartney | 900 00 | | Sept. 26, 1912 | New office. |
| 4 | Meadow Lake | 66 | J. R. McCordie | 900 00 | | " 9, 1912 | New office. |
| 5 | Green Lake | 44 | R. White | 900 00 | | Oct. 17, 1912 | New office. |
| | | 185 | | 4,500 00 | | | |

## BRANCH TELEPHONE LINES.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Edmonton | 0 | | | | | This line was built in 1904 and is being operated from the Central telephone office in Edmonton. |
| 1 | Winterburn | 8½ | | | | | |
| 2 | Indian Agency | 5½ | | | | | |
| 3 | Spruce Grove | 8 | | | | | |
| 4 | Stony Plain Centre St'n. | 6½ | | | | | |
| 5 | Stony Plain Centre | 3½ | | | | | |
| | | 32 | | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | Edmonton | 0 | | | | | This line has been in operation to St. Albert since 1887 and to Alexandre since 1902 and is operated from the Central Telephone office at Edmonton. |
| 1 | St. Albert | 9 | | | | | |
| 2 | Raye | 12 | | | | | |
| 3 | Rivière-Qui-Barre | 8 | | | | | |
| 4 | Alexandre | 5 | | | | | |
| | | 34 | | | | | |

## FILE HILLS LINE.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | Ft Qu'Appelle | 0 | | | | | This line was built in 1908 for the convenience of the Department of Indian Affairs exclusively. |
| 2 | Lebret | 4 | | | | | |
| 3 | Balcarres | 11 | | | | | |
| 4 | File Hills Agency | 13 | | | | | |
| | | 28 | | | | | |

# GOVERNMENT TELEGRAPH SERVICE.

## NORTH WEST TELEGRAPH LINES—*Continued.*

### BRANCH TELEPHONE LINES—*Continued.*

### KAMSACK LINE.

| No. | Stations. | Intermediate Distance. | Agents and Operators. | Salaries per Annum. | Date of Appointment. | Memo. |
|---|---|---|---|---|---|---|
| 1 | Kamsack, C. N. R. | 0 | | | | This line was built in 1907 for the Department of Indian Affairs. Kamsack is on the C. N. R. 100 miles North East of Fort Qu'Appelle and is in no way connected with the Government Telegraph line. The portion of the line in brackets was built in 1910. |
| 2 | Dr. Wallace's office | 0 | | | | |
| 3 | Indian Agency | 6½ | | | | |
| 4 | St. Phillips Mission | 5 | | | | |
| 5 | Hudson Bay Co. (Pelly) | 7 | | | | |
| 6 | Keys Reserve | 5½ | | | | |
| | | 24 | | | | |

### DUCK LAKE LINE.

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | Duck Lake, C. N. R. | 0 | | | | This line was built in 1902 for the use of the Department of Indian Affairs exclusively. |
| 2 | R. N. W. M. P. | 0½ | | | | |
| 3 | Indian agency | 3 | | | | |
| | | 3½ | | | | |

### SADDLE LAKE LINE.

| | | | | | | |
|---|---|---|---|---|---|---|
| | Saddle Lake | 0 | | | | This line was built in 1900 for the use of the Department of Indian Affairs exclusively. |
| 1 | Industrial School | 6½ | | | | |
| | | 6½ | | | | |

## PEACE RIVER—SHAFTESBURY LINE.

| | | | | | | |
|---|---|---|---|---|---|---|
| | Peace River Crossing | 0 | | | | This line was built in 1911. These telephones were installed at a rental basis to the parties named at annual charge of $15 conditionally that they are also intended for the use of the public when wishing to reach our Peace River office for which a charge of 10 cents will be made. |
| 1 | Collin's | 3 | | | | |
| 2 | R. C. Mission | 5 | | | | |
| 3 | English Church Mission | 7 | | | | |
| | | 15 | | | | |

## GROUARD—PRAIRIE RIVER LINE.

| | | | | | | |
|---|---|---|---|---|---|---|
| | Grouard | 0 | | | | This line was built in 1912. These telephones were installed at a rental basis to the parties named at an annual charge of $15, conditionally that they are also intended for the use of the public when wishing to reach our Grouard office for which a charge of 10 cents will be made. |
| 1 | B. A. See | 3 | | | | |
| 2 | Travers Bros. sawmills | 9 | | | | |
| 3 | Martin Ouellette | 4 | | | | |
| 4 | D. S. Hayden | 4 | | | | |
| 5 | Mr. McQue. High Prairie | 5 | | | | |
| | | 25 | | | | |

# GOVERNMENT TELEGRAPH SERVICE.

## TELEPHONE LINES IN BRITISH COLUMBIA.

| No. | Stations. | Intermediate Distance. | Agents, &c. | Position. | Salaries per Annum. | Date of Appointment. | Memo. |
|---|---|---|---|---|---|---|---|
| | *Kamloops—Okanagan Valley Lines.* | Miles. | | | $ cts. | | |
| 1 | Kamloops | | Nellie New | Agent | 600 00 | Oct. 1, 1912 | |
| | " | | Nellie New | For messenger | 240 00 | " 1, 1912 | |
| 2 | Anderson Creek | 12 | | Agent | Commission. | | |
| 3 | Petersons | 5 | J. Bulman | " | " | July 1, 1909 | |
| 4 | McDonalds | 5 | W. R. McDonald | " | " | " 1, 1901 | |
| 5 | Stump Lake | 4 | J. Whitford | " | " | " 1, 1910 | |
| 6 | Rockford | 4 | Azela M. Palmer | " | " | Aug., 1911 | |
| 7 | Friskens | 3 | Wm. Murray | " | " | Jan. 1, 1913 | |
| 8 | Frasers | 2 | G. Fraser | " | " | " 1905 | |
| 9 | Moores | 4 | E. E. Wilkinson | " | " | " 1910 | |
| 10 | Guichons | 9 | Jos. Guichon | " | " | July, 1905 | |
| 11 | Quilchena | 2 | J. A. Guichon | " | " | May, 1907 | |
| 12 | Nicola | 8 | M. V. Munro | " | 600 00 | July, 1905 | |
| | | | | Rent | 120 00 | | |
| 13 | Merritt | 7 | A. F. Rankin | Agent | 600 00 | Oct., 1911 | |
| 14 | Coutlee | 3 | H. S. Cleasley | Commission. | | April, 1909 | |
| 15 | Lower Nicola | 4 | Mrs. R. M. Woodword | " | " | July, 1906 | |
| 16 | Canford | 8 | | " | | | Projected extension. |
| 17 | Crowders | 18 | Frank Crowder | " | Commission. | Oct., 1911 | |
| 18 | Aspen Grove | 6 | H. Turner | " | " | Nov., 1908 | |
| 19 | Hastings Ranch | 7 | R. L. McGill | " | " | June, 1911 | |
| 20 | Colletts Ranch | 6 | Wm. Cooper | " | " | " 1911 | |
| 21 | Otter Valley | 12 | J. G. Thymne | " | " | Oct., 1907 | |
| 22 | Tulameen | 15 | J. A. Schubert | " | " | Sept., 1911 | |
| 23 | Coalmont | 6 | Isaac McTavish | " | " | Jan. 1, 1913 | Moved from G. Creek. |
| 24 | Granite Creek | 3 | F. P. Cook | " | " | Dec. 1, 1911 | Office re-opened. |
| 25 | Princeton | 11 | Alex. Bell | " | 480 00 | Aug., 1908 | |
| 26 | Hedley | 25 | F. M. Gillespie | " | 480 00 | " 1909 | |
| | | | | | | | Delivery office closed March 31, 1911. |
| 27 | Richters | 20 | F. Richters & Co | " | Commission. | Oct., 1908 | |
| 28 | Keremeos Station | 3 | H. N. Etcles | " | " | Jan., 1908 | |
| 29 | Fairview | 18 | S. J. McCuddy | " | " | July, 1909 | |
| 30 | Vasseaux Lake | 9 | Hazel Mackenzie | " | " | Nov., 1908 | |
| 31 | Okanagan Falls | 6 | W. B. Hine | " | " | Oct., 1908 | |
| 32 | Kaleden | 6 | A. S. Hatfield | " | " | — 1910 | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 33 | Marron Lake | 8 | W. Smythe Parker | " | " | Nov., 1910 | | |
| 34 | Penticton | 10 | Miss Carrie Crowe | " | 720 00 | Nov. 1, 1912 | | |
| 35 | Summerland | 11 | W. H. Hayes | " | Commission. | July, 1906 | | |
| 36 | Peachland | 18 | A. W. McDougald | " | " | Aug. 1, 1912 | | |
| 37 | Gellatlys | 10 | D. E. Gellatly | " | " | " 1906 | | |
| 38 | Glen-Johnston | 2 | Hitchner Bros. | " | " | Oct., 1911 | Spur from West Bank. | |
| 39 | West Bank | 5 | Wm. G. Hewlett | " | " | — 1910 | | |
| 40 | Kelowna | 2 | H. H. Millie | " | 1,320 00 | Nov. 1, 1912 | | |
| | | | | Rent, etc. | 312 00 | | Allowance for rent, messages and maintenance batteries. | |
| 41 | Oyama | 20 | F. H. Aldreed | " | Commission. | — 1911 | | |
| 42 | Okanagan Centre | 3 | J. A. Gleed | " | " | — 1910 | | |
| 43 | Vernon | 15 | R. A. Johnston | " | 2,400 60 | Nov. 1, 1912 | Including operating and messenger services, rent, etc., for local and transfer office. | |
| 44 | Lumby (Branch) | 17 | Miss R. Morand | " | Commission. | Dec., 1907 | | |
| | Vernon—Kelowna (metallic). | 76 | | | | | | |
| | Total | 410 | miles of wire; 372 miles of pole line. | | | | | |

KAMLOOPS—VERNON SECTION.

| No. | Station. | Intermediate Distance. | Agents, &c. | Positions. | Salaries per Annum. | Date of Appointment. | Memo. |
|---|---|---|---|---|---|---|---|
| | | Miles. | | | $ cts. | | |
| 1 | Kamloops | 0 | Nellie New | Agent | | Oct. 1, 1912 | |
| 2 | Rose Hill | 7 | Angus McKay | " | Commission. | Mar., 1911 | |
| 3 | Barnhartvale | 5 | P. A. Barnhart | " | " | Jan., 1911 | |
| 4 | Holmwood | 12 | A. W. Duck | " | " | Nov., 1911 | Spur from main line. |
| 5 | Ducks | 4 | H. F. Stewart | " | 85 per month | " 1911 | |
| 6 | Grand Prairie | 17 | E. W. Hoole | " | Commission. | July, 1911 | |
| 7 | Falklands | 17 | A. H. Notley | " | " | " 1912 | |
| 8 | Glenemma | 10 | | " | " | | |
| 9 | Vernon | 17 | R. A. Johnston | " | 2,400 00 | Jan., 1911 | Including rent, messenger service, local and transfer office. |
| | Total | 89 | | | | | |

## GOVERNMENT TELEGRAPH SERVICE—*Continued.*

### BRITISH COLUMBIA—*Continued.*

### LOCAL EXCHANGES IN OPERATION.

| Place. | Number of Subscribers. | Rent paid per Annum. | | |
|---|---|---|---|---|
| | | Business. | Dwellings. | General. |
| | | $ cts. | $ cts. | $ |
| Merritt | 64 | 30 00 | 24 00 | |
| Nicola | 9 | 30 00 | 24 00 | |
| Princeton | 35 | 24 00 | 18 00 | |
| Hedley | 13 | 24 00 | 18 00 | |

Main line rates charged are given in Tariff section of Report.

## GOVERNMENT TELEGRAPH SERVICE—*Continued.*

### TELEPHONE LINES IN BRITISH COLUMBIA—*Continued*

| No. | Stations. | Intermediate Distance. | Agents, &c. | Position. | Salaries per Annum. | Date of Appointment. | Memo. |
|---|---|---|---|---|---|---|---|
| | *North Thompson River Line.* | Miles. | | | | | |
| 1 | Kamloops | | Miss Nellie New | Agent | | | Entered in Okanagan Valley section. |
| | " | | " | Messenger | | | |
| 2 | North Fruitlands | 9 | " | Agent | Commission. | | Spur not yet completed. |
| 3 | Anderson's Ranch | 4 | F. W. Anderson | " | " | June, 1911 | |
| 4 | Austin's Ranch | 2 | J. R. Connor | " | " | June, 1911 | |
| 5 | Hepley Creek | 2 | A. de B. Owen | " | " | July 1, 1912 | |
| 6 | Twenty-Mile House | 6 | J. Spratt | " | " | Jan., 1912 | 20 per cent commission of government line tolls. |
| 7 | Twenty-five Mile House | 6 | J. McCarten | " | " | Nov., 1908 | |
| 8 | Louis Creek | 10 | J. F. Armour | " | " | Sept. 1, 1912 | |
| 9 | Barrier River | 4 | Geo. A. Borthwick | " | " | Apr., 1911 | |
| 10 | Genier's | 2 | M. Genier | " | $25 per m. | Nov., 1910 | |
| 11 | Chinook Cove | 2 | Malcolm White | " | Commission. | June, 1911 | Spur 2 miles west side river. |
| 12 | Chu Chua | 12 | Geo. Fennell | " | " | Nov., 1910 | |
| 13 | Mount Ollie | 7 | T. G. Kingscote | " | " | Sept. 1. 1912 | Name changed from Little Fort, Feb. 1913. |
| 14 | Aitkins | 3 | | | | | |
| | Total | 69 | | | | | |

This line is operated on toll system; the rates based on mileage in conjunction with the Okanagan Valley line.

### NAKUSP TO EDGEWOOD LINE.

| | | | | | | |
|---|---|---|---|---|---|---|
| Nakusp | | L. J. Edwards | | 20% Comm | Dec. 1, 1912 | |
| Rock Island | 10 | | | " | " | |
| Arrow Park | 2 | A. E. Keffer | | " | " | |
| Burton City | 4 | Robert Stevens | | " | " | |
| Fauquiers | 12 | Geo. E. Smedley | | " | " | |
| Needles | 2 | | | " | " | |
| Edgewood | 7 | | | " | " | |
| | 37 | | | | | |

## GOVERNMENT TELEGRAPH SERVICE—VANCOUVER ISLAND LINES,

### VICTORIA-BANFIELD SECTION.

| No. | Station. | Intermediate Distances. | Name. | Position. | Salaries per Month or Commission. | Date of Appointment. | Remarks. |
|---|---|---|---|---|---|---|---|
| | | Miles. | | | $ cts. | | |
| 1 | Victoria | 0 | Jas. McNeil | Agent | 85 00 | 1st April, 1911 | |
| | " | | D. Dowdell | Messenger | 20 00 | 12th Dec., 1912 | Vice P. Stevens and W. Bryson, resigned. |
| 2 | Sooke Road | 17 | Sarah Gent | Agent | 25 p. c. commission | 1st June, 1911 | |
| | " | | A. Gent | Line repairer | 70 00 | 1st April, 1911 | |
| 3 | Sooke | 3 | Isabella Milne | Agent | 25 p. c. commission | 1st April, 1911 | |
| 4 | Otterpoint | 6 | Mrs. K. Gordon | " | 35 00 | 1st Oct., 1908 | |
| 5 | Jordan River | 14 | Mrs. C. McVicar | " | 25 p. c. commission | 1st Oct., 1911 | |
| | " | | J. N. McVicar | Line repairer | 70 00 | 1st June, 1909 | |
| 6 | Slide Hill | 14 | D. H. Soule | " | 70 00 | 1st Feb., 1911 | |
| 7 | Port Renfrew | 14 | Mrs. E.C.Williams | Agent | 55 00 | 20th Feb., 1913 | Vice H. W. Tee transferred to Powell River and H. W. Spencer to Campbell River. |
| | | | T. M. Baird | Line repairer | 70 00 | 1st Nov., 1908 | |
| 8 | Camp Bay | 17 | A. McLennan | " | 70 00 | 1st Aug. 1911 | |
| 9 | Carmanah | | | | | 1st Nov., 1891 | Closed August 13, 1912. |
| 10 | Cloose | 15 | E. Arnold | Line repairer | 70 00 | 1st June, 1912 | Vice J. Nutting, resigned. |
| | " | | Miss C. Logan | Agent | 25 p. c. commission | 1st Jan., 1913 | |
| 11 | Pachena | 15 | D. Logan | Line repairer | 70 00 | 1st Aprll, 1898 | |
| 12 | Banfield | 15 | G. M. Ross | Agent | 70 00 | 1st Nov., 1911 | |
| | | | C. E. Mousley | Line repairer | 70 00 | 1st Sept., 1908 | |
| | | 130 | | | | | |

Phones have been installed on this line for the use of Pachena Lighthouse, Life Saving Patrol Hut Tsusiat and Seven-Mile river, latter two places during winter months only; Agent Mrs. Gordon, Otter Point; line repairer McVicar, Jordan River, line repairer Soule, Slide Hill, line repairer Baird, Port Renfrew; line repairer McLennan, Camp Bay; Light House Carmanah; Agent Mrs. Williams, Port Renfrew; line repairer Arnold, Clo-oose, Agent Miss C. Logan, Clo-oose; line repairer Shelter Light; Agent Ross, Banfield; Life Saving Station, Banfield, Light House Cape Beale, latter on line maintained by Marine and Fisheries Dept., British Canadian Lumber Co., Port Renfrew; Sombrio River Mining Co., Sombrio River supplied with Phones on the usual subscribers terms of $36 per annum in addition to the regular tariff.

## VANCOUVER ISLAND LINES—*Continued.*

### Telephone Circuit Victoria to Jordan River.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 13 | Victoria | 0 | Jas. McNeil | Agent | | | | See item No. 1. |
| 14 | Sooke Road | 17 | Sarah Gent | " | | | | See item No. 3. |
| 15 | Sooke | 3 | Isabella Milne | " | | | | See item No. 5. |
| 16 | Sooke Wharf | | J. H. Todd & Sons | Subscribers. | | | | |
| 17 | Scarfs | 2 | Oscar Scarf | Agent | 25 p. c. commission, also | | | Office closed. |
| 18 | Otter Point | 4 | Mrs. K. Gordon | " | subscriber | | | See item No. 6. |
| 19 | " | | J. H. Todd & Sons | Subscribers. | | | | |
| 20 | Flea Bay | 2 | " | " | | | | |
| 21 | Muir Creek | 2 | " | " | | | | |
| 22 | Point-no-Point | 3 | Can. Pug. Sound Lumber Co. | " | | | | |
| 23 | Jordan River | 7 | Mrs. C.N.McVicar | Agent | | | | See item No. 7. |
| 24 | " | | Can. Puget Sound Lumber Co. | Subscriber. | | | | |
| | | 40 | | | | | | |

Subscribers pay $36 annual rental for Phones in addition to regular tariff. Line repairers Gent and McVicar look after this line.

### ALBERNI-BANFIELD SECTION.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 25 | Alberni | 0 | Mrs. P. A. Haslam | Agent | 55 00 | 1st Dec., 1902 | $5 per month allowed for office rent. |
| 26 | Port Alberni | 2 | D. Stone | Line repairer | 70 00 | 1st Jan., 1912 | Removed from Alberni end of section changed to Port Alberni. |
| | | | E. B. Garrard | Agent | 70 00 | 1st April, 1911 | $10 per month allowed for office rent. |
| 27 | Banfield | 51 | G. M. Ross | " | 70 00 | 1st Nov., 1911 | Formerly repaired by Can. Pa. Telegraph line repairers. |
| | | | J. B. McKay | Line repairer | 70 00 | 1st April, 1911 | |

Branch line to Cape Beale from Banfield, also to Life Saving Station, Banfield, transferred to Marine and Fisheries Dept., as the line is entirely for their service.

## VANCOUVER ISLAND LINE—*Continued*

### ALBERNI-CLAYOQUOT SECTION.

| No. | Station. | Intermediate Distance. | Name. | Position. | Salaries. | Date of appointement. | Remarks. |
|---|---|---|---|---|---|---|---|
| | *Alberni.* | | | | $ cts. | | |
| 28 | Port Alberni | 2 | E. B. Garrard | Agent | 70 00 | | See item No. 26. |
| | | | D. Stone | Line repairer. | | | See item No. 26. |
| 29 | Franklin Creek | 8 | | | | | Line crosses Alberni canal here by submarine cable. |
| 30 | Uckuchlesit | 23 | J. Williams | Line rep. & Ag't. | 70 00 | July 1, 1910 | |
| 31 | Toquart | 9 | J. E. Hillier | " " | 75 00 | Nov. 16, 1908 | Government own office building, occupied by line repairer as residence. |
| 32 | Ucluelet | 24¼ | H. J. Hillier | " " | 70 00 | Dec. 1, 1902 | $8.50 allowed for office rent. |
| 33 | Long Beach | | Accommodation | | | | |
| | | | Office | | | | Point of connection from main line to branch lines. |
| 34 | Tofino | 30¼ | | | | | |
| 35 | Clayoquot | 1 | F. C. Garrard | " " | 70 00 | April 1, 1911 | |
| | | | J. C. Barber | Agent | 70 00 | Jan. 1, 1913 | Name of office changed from Stubbs Island, $2.50 allowed for office rent. |
| | | 97½ | | | | | |
| | *Branches.* | | | | | | |
| | *Toquart-Sechart.* | | | | | | |
| | Toquart | 0 | J. E. Hillier | Line rep. & Ag't. | | | See item No. 32. |
| 36 | Sechart | 9½ | Accommodation | | | | |
| | | | Office | | | | Whaling Station. |
| 37 | Tofino-Mosquito Harbour | | | | | | |
| 38 | Tofino | 0 | F. C. Garrard | Agent & line rep'r. | | | |
| 39 | Mosquito Harbour | 10½ | Accommodation | | | | |
| | | | Office | | | | See item No. 34. |
| | Tofino-Clayoquot Sound | | | | | | Lumber & Logging firm. |
| 40 | Tofino | 0 | F. C. Garrard | Agent & line rep'r. | | | |
| 41 | Clayoquot Sound | 11½ | Accommodation | | | | |
| | Tofino-Leonard Island Light | | Office | | | | See item No. 34. |
| | | | | | | | Clayoquot Sound Canning Coy. |
| 42 | Tofino | 0 | F. C. Garrard | Agent & line rep'r. | | | |
| 43 | Leonard Isl. Light house | 1¼ | Accommodation | | | | |
| | | | Office | | | | For Marine & Fisheries Dept. |

Branch line constructed to give connection to lifeboat station, coxswains house and look-out station on Ucluelet Arm and Barklay Sound, transferred to Marine and Fisheries Dept. to maintain as the line is entirely for their service.

## VANCOUVER ISLAND LINE—*Continued.*

### NANAIMO-COMOX-CAMPBELL-RIVER SECTION.

| No. | Station. | Intermediate Distance. | Name. | Position. | Salaries. | Date of appointment. | Remarks. |
|---|---|---|---|---|---|---|---|
| | | | | | $ cts. | | |
| 44 | Nanaimo | 0 | A. C. Cole | Agent | 95 00 | Oct. 1, 1911 | |
| | " | | H. W. Spencer | Messenger | 30 00 | Mar. 20, 1911 | |
| 45 | Wellington | 5 | H. R. Parker | Agent | 25 p.c. commission | Mar. 1, 1911 | |
| 46 | Parksville | 23 | L. H. Bradbury | Agent | 70 00 | Aug. 1, 1910 | |
| | " | | Wm. Mills | Line repairer | 70 00 | June 1, 1903 | |
| 47 | Union Bay | 29 | A. M. Falconer | Agent | 70 00 | April 1, 1912 | Vice L. A. Lucas, resigned. |
| 48 | Cumberland | 10 | H. G. Williams | Agent | 70 00 | July 1, 1909 | |
| 49 | Union Bay | | Thos. Hudson | Line repairer | 85 00 | Nov. 17, 1898 | $10 per month horse hire. |
| 50 | Courtenay | 7 | John Aitken | Agent | 70 00 | Feb. 1, 1912 | |
| 51 | Comox | 8 | Mrs. M. Smith | Agent | 55 00 | Sept. 1, 1911 | $5 per month allowed for office rent. |
| 52 | Oyster River | 3? | Miss S. Woodhus | Agent | 25 p.c. commission | April 1, 1909 | |
| 53 | Campbell River | 4 | W. E. Spencer | Agent | 70 00 | April 1, 1912 | Vice A. M. Falconer, transferred to Union Bay. |
| | *Branches.* | 118 | | | | | |
| | *Parksville-Alberni.* | | | | | | |
| 54 | Parksville | | L. H. Bradbury | Agent | | | See item No. 46. |
| 55 | " | | Thos. Hirst | Line repairer | 70 00 | Feb. 4, 1911 | |
| 56 | Alberni | 30 | Mrs. P. A. Haslam | Agent | | | See item No. 28. |
| 57 | " | | A. A. Lynn | Line repairer | 70 00 | April 1, 1912 | Vice T. Patterson. |
| | *Comox-Cape Lazo.* | | | | | | |
| 58 | Comox | | Mrs. M. Smith | Agent | | | See item No. 54. |
| 59 | Cape Lazo | 6 | Govt. Wireless | Operator | | | To give connection to Wireless station, line locally repaired. |
| | *Union Bay-Denman & Hornby Island.* | | | | | | |
| 60 | Union Bay | 0 | A. M. Falconer | Agent | | | See item No. 50. |
| 61 | Cable Landing Denman Island | 8 | Wesley Piercy | Agent | 25 p.c. commission | Feb. 1, 1908 | |
| 62 | Denman Island | 5½ | Thos. Chalmers | " | 25 p.c. " | Feb. 1, 1908 | |
| 63 | Hornby Island | 2½ | Thos. Smith | " | 25 p.c. " | Feb. 1, 1908 | |
| 64 | Hornby Island | 9 | Geo. Howes | " | 25 p.c. " | June 15, 1912 | |
| | | 25 | | | | | |

## VANCOUVER ISLAND LINE—*Continued.*

### NANAIMO-GABRIOLA ISLAND SECTION.

| No. | Station. | Intermediate distance. | Name. | Position. | Salaries. | Date of Appointment. | Remarks. |
|---|---|---|---|---|---|---|---|
| | | Miles. | | | | | |
| 65 | Nanaimo | 0 | B. C. Tel. Co | Agent | 25 per cent commission. | Feb. 1, 1909 | |
| 66 | Nanaimo Govt. Tels | | A. C. Cole | " | | | See item No. 47. |
| 67 | Nanaimo River | 5½ | J. Gordon | " | 25 per cent commission | Feb. 1, 1909 | |
| 68 | North Gabriola | 1¾ | R. Hoggan | | " " | Oct. 1, 1910 | |
| 69 | Centre Gabriola | 5 | Dom'n Shale Brick & S. P. Co | | " " | Mar. 1, 1912 | Vice E. Golightly resigned. |
| 70 | Shaws | | Mrs. W. N. Shaw | Agent | " " | June 1, 1912 | |
| 71 | South Gabriola | 7 | J. Degnen | " | " " | Feb. 1, 1909 | |
| | Total | 19 | | | | | |

### CAMPBELL RIVER-TEXADA ISLAND SECTION.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 72 | Campbell River | 0 | W. E. Spencer | Agent | 70 00 | | See item No. 56. |
| 73 | Quathiaski Cove | 3 | W. E. Anderson | " | 25 per cent commission | Nov. 1, 1910 | |
| 74 | Heriot Bay | 6¼ | H. A. Bull | " | " " | Nov. 1, 1910 | |
| 75 | Bagots | 1½ | T. H. Bagot | " | " " | Jan. 1, 1913 | |
| 76 | Hughes | | J. Hughes | Test phone for line repairer | | | |
| 77 | Mary Island | 8 | W. Milne | Agent & line rep'r. | " " | Oct. 1, 1912 | |
| 78 | Cortez Island | 10 | M. Manson | Agent | " " | Nov. 1, 1910 | |
| 79 | Lund (Mainland, B.C.) | 17 | F. Thulin | " | " " | Nov. 1, 1910 | |
| 80 | Lund | | C. H. Franzen | Line repairer | 70 00 | Feb. 1, 1911 | Permanent line repairer. |
| 81 | Sliammon | 12 | | | | | |
| 82 | Powell River | 3 | H. W. Tee | Agent | 70 00 | Feb. 20, 1913 | Vice A. M. Oliver, resigned. |
| 83 | Blubber Bay | 5½ | J. B. Fry | " | 25 per cent commission | Feb. 10, 1911 | |
| 84 | Vananda | 6 | A. G. Deighton | " | " " | Feb. 10, 1911 | |
| 85 | " | | J. R. Fraser | Line repairer | | Feb. 10, 1911 | Makes repairs when necessary. |
| | Total | 72¼ | | | | | |

Permanent line repairer, C. H. Franzen, headquarters at Lund, repairs line from Powell River to Sarah Point, 22 miles all on Mainland of British Columbia.
Land line on Valdez Island repaired by Line Repairer Bagot and paid only for time occupied executing repairs.

" Mary " " " Milne " " " "
" Cortez " " " A. Hamarech " " " "
" Texada " " " J. R. Fraser " " " "

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | Wm. Dee | Clerk Supt. Office | $110 00 | April 1, 1911 | Transferred from Victoria Tele. Office. |
| | | | A. V. Porter | Line foreman | $100 00 | June 1, 1911 | Supplied with motor launch to travel between points making repairs to line and instrument. |
| | | | H. Ward | Engineer on launch | $80 00 | June 1, 1912 | |

## VANCOUVER ISLAND LINE—*Continued.*

### SALT SPRING ISLAND TELEPHONE LINE.

| No. | Station. | Intermediate distance. | Name. | Position. | Salaries. | Date of Appointment. | Remarks. |
|---|---|---|---|---|---|---|---|
| | | | | | $ cts. | | |
| 1 | Duncan | 0 | Miss M. Robertson | Agent | 55 00 | March 1, 1912 | Vice D. Ford, resigned, $5 per month allowed for office rent. |
| 2 | Maple Bay | 9 | Miss L. P. Springett | " | 25 p.c. commission | April 1, 1912 | Vice T. Aitken, resigned. |
| 3 | Chisholms | 3 | A. Chisholm | " | 25 p.c. " | July 1, 1905 | |
| 4 | Sansun Narrows | 3¾ | | | | | Cable crosses here. |
| 5 | Trench's | 3 | C. N. Trench | Subscriber | | | |
| 6 | South Salt Spring | 4 | R. P. Edwards | Agent | 25 p.c. commission | March 1, 1912 | |
| 7 | Bridgman's | 6½ | A. J. W. Bridgman | " | 25 p.c. " | Dec. 1, 1912 | Office formerly known as Beaver Point |
| 8 | Fulford H'b'r | | C. M. Blandy | Subscriber | | | |
| 9 | Cushion Cove | 3 | Bullman Lbr. Co | Agent | 25 p.c. " | July 1, 1908 | |
| 10 | Horels | 2 | Jas. Horel | " | 25 p.c. " | Sept. 1, 1911 | |
| 11 | Ganges Hbr | 6 | G. J. Mouat & Co. | " | 25 p.c. " | July 1, 1905 | |
| 12 | Bedwell Hbr. | 2½ | Mrs. A. R. Spalding | " | 25 p.c. " | Nov. 1, 1908 | Cable crosses here. |
| 13 | South Pender | 1½ | L. S. Higgs | " | 25 p.c. " | Oct. 1, 1908 | |
| 14 | Schriebers | 3½ | O. P. Schrieber | Subscriber | | | |
| 15 | Browning Hbr | 3 | W. Brackett | Agent | 25 p.c. " | Jan. 1, 1908 | |
| 16 | Hope Bay | 2½ | J. W. Corbett | " | 25 p.c. " | Oct. 1, 1911 | |
| 17 | Port Washington | 4 | C. A. Gaunt | " | 25 p.c. " | Feb. 1, 1913 | Vice S. Percival, resigned, office opened Nov. 1, 1912. |
| 18 | Village Bay | 5 | A. Deacon | " | 25 p.c. " | Dec. 1, 1908 | |
| 19 | Mayne Isd Hotel | 2½ | C. J. Macdonald | " | 25 p.c. " | " " | |
| 20 | Active Pass Lt. House | 1½ | Geo. Georgeson | " | 25 p.c. " | " " | |
| 21 | Galiano Island | 3 | Burrill Bros | " | 25 p.c. " | " " | Office re-opened July 3, 1912, new cable laid. |
| | | 69¼ | Cable 7¾<br>Land 62 | | | | |

Subscribers pay $36 yearly rental and regular tariff.
Repairs made to the land lines on the various sections as under; only actual time occupied in making repairs paid for.
Duncan to Sansun Narrows, A. J. Chisholm, line repairer.
Salt Spring Island-Sansun Narrows to Ganges and Beaver Point, Jas. Horel, line repairer.
Pender Island:—South Pender, L. S. Higgs; North Pender, P. W. Carrett, line repairers.
Mayne Island:—Cable landing to Active pass Lt. House, A. Deacon, line repairer.

## SIDNEY AND SIDNEY ISLAND TELEPHONE LINE.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | Sidney | 0 | B. C. Telephone Co | Agent | 25 p.c. commission | July | 1, 1910 | |
| 2 | Sidney Island | 5 | A. E. Salkell | " | " " | June | 1, 1912 | Vice Mrs. B. K. Byers, resigned. |

## GOLDEN AND WINDERMERE TELEPHONE LINE.

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1 | Golden | 0 | Mrs. J. A. Buckham. | Agent | 55 00 | Nov. | 12, 1909 | $10 per month allowed for office rent. |
| 2 | Government road | 8 | Chas. Nickleson | Subscriber | | | | |
| 3 | Canyon Creek | 8 | F. W. Jones | " | | | | |
| 4 | McMurdo | 13 | T. R. Haddon | " | | | | |
| 5 | Beard Creek | 23 | E. J. Tennant | Line repairer | | | | Vice G. E. Sanborn, resigned, test station. |
| 6 | McKeenans | 30 | R. McKeenan | Subscriber | | | | |
| 7 | Camp | 36 | Kootenay Central Ry. | " | | | | Closed. |
| 8 | Spillimacheen | 41 | H. G. McDonald | Agent | 25 p.c. commission | Nov. | 1, 1912 | Vice W. J. Barry, resigned. |
| 9 | Heffners Lg | 42 | H. G. Low | Subscriber | | | | |
| 10 | Brisco | 47 | W. P. Allsop | " | | | | |
| 11 | Camp | 49 | Kootenay Central Ry. | " | | | | Transferred from 36 Mile camp. |
| 12 | Brisco | 50 | H. Atchison | " | | | | |
| 13 | Brisco | | A. H. Mitchell | " | | | | |
| 14 | Camp | 52 | Kootenay Central Ry. | " | | | | " " Wapta. |
| 15 | Hicks | 62 | " " | " | | | | Re-opened. |
| 16 | Sinclair | 66 | E. Hoar | " | | | | Vice Mrs. Macdonald, resigned. |
| 17 | Wilmer | 80 | Mrs. M. H. Hope | Agent | 55 00 | April | 1, 1912 | |
| 18 | Athalmer | 84 | Jas. Lake | " | 25 p.c. commission | Oct. | 1, 1908 | |
| 19 | Windermere | 88 | J. C. Pitts | " | " " | July | 1, 1904 | |
| 20 | Invermere | 89 | G. A. Stark | Subscriber | | | | |

GOLDEN AND WINDERMERE LINE—*Continued.*

*Subscribers on Local Exchange in Golden—*

Columbia Hotel.
Provincial Government Office.
C. A. Warren.
P. Burns.
Imperial Bank of Canada.
Russell House.
Henderson House.

*Subscribers in and near Golden on main line between Golden and Windermere—*

Columbia Valley Irrigated Fruit Lands, Limited.
A. C. Hamilton.
Kootenay Central Railway Company.
Columbia River Lumber Company.
Columbia Valley Orchards Company.

*Subscribers on Local Exchange at Wilmer—*

Columbia Valley Irrigated Fruit Lands, Limited.
Delphine Hotel.
Imperial Bank of Canada.
General Poett.
Invermere Hotel.

*Subscribers at Athalmer—*

Coronation Hotel, (formerly Columbia Hotel).
Livery Stables (Thos. Barry, prop.)
Windsor Hotel.
Columbia River Lumber Company.
Bank of Montreal.

*Subscribers at or near Windermere—*

Bruce Ranch, R. R. Bruce, prop.
Powell Ranch, Mrs. Adami, prop.

## VANCOUVER ISLAND LINE—*Continued.*

### TOTAL NUMBER OF LINES ETC., IN OPERATION AT MARCH 31, 1913.

| Lines. | Miles. | Land Lines. | Cable. | No. of Offices. | No. of Operators. | No. of Line Repairers. | | Messengers. |
|---|---|---|---|---|---|---|---|---|
| *Vancouver Island Lines* :— | | | | | | | | |
| Victoria—Banfield, Cape Beale Section | 130 | 130 | ..... | 7 | 5 | 8 | ..... | 1 |
| Branch to Wireless Station | 1½ | 1½ | ..... | ..... | ..... | | ..... | |
| Telephone circuit to Jordan River | 40 | 40 | ..... | 5 | 5 | | ..... | |
| Alberni—Banfield Section | 52 | 52 | ..... | 3 | 3 | 2 | ..... | |
| Alberni—Clayoquot Section | 98 | 96¾ | 1¼ | 8 | 7 | 5 | ..... | |
| Sechart Branch | 9½ | 9½ | ..... | ..... | ..... | | Half mile cable abandoned | |
| Mosquito Harbour Branch | 10½ | 10¼ | ¼ | ..... | ..... | | ..... | |
| Clayoquot Sound Branch | 11½ | 11½ | ..... | ..... | ..... | | ..... | |
| Nanaimo—Comox—Campbell River Section | 118 | 118 | ..... | 9 | 9 | 3 | ..... | 1 |
| Cape Lazo Branch | 6 | 6 | ..... | ..... | ..... | | ..... | |
| Parksville—Alberni Branch | 30 | 30 | ..... | 1 | 1 | 2 | ..... | |
| Denman—Hornby Island Branch | 25 | 23 | 2 | 4 | 4 | | Repairs made locally | |
| Nanaimo—Gabriola Island Branch | 21½ | 20¾ | ¾ | 5 | 5 | | " " | |
| Campbell River—Texada Island Section | 72¼ | 53¾ | 18½ | 10 | 10 | 5 | 1 permanent, 4 make repairs when necessary | |
| | 625¾ | 603 | 22¾ | 52 | 49 | 25 | ..... | 2 |
| Golden and Windermere line | 89 | 89 | ..... | 5 | 5 | 1 | ..... | |
| Salt Spring Island line | 69¼ | 62 | 7¼ | 20 | 20 | | Repairs made locally | |
| Malahat—Saanich line | 3½ | ½ | 3 | 1 | 1 | | " " | |
| Metchosin line | 15 | 15 | ..... | ..... | ..... | | Maintained by B. C. Tel. Co. | |
| Chemainus—Kuper—Thetis Island | 12½ | 7½ | 5 | 4 | 4 | | Repairs made locally | |
| Sidney and Sidney Island line | 5 | 2½ | 2½ | 2 | 2 | | " " | |
| Grand total | 820 | 779½ | 40½ | 84 | 81 | 26 | ..... | 2 |

## GOVERNMENT TELEGRAPH SERVICE—*Continued.*

### YUKON LINE.

| Stations. | Intermediate Distance. | Position. | Salaries per Month. | Tariff from Ashcroft. | Night Rate. | Memo. |
|---|---|---|---|---|---|---|
| | Miles. | | $ cts. | | | |
| Vancouver | | J. T. Phelan, superintendent | 233 33 | | | |
| | | J. J. Healy, clerk | 158 36 | | | |
| | | P. R. Quain, clerk | 125 00 | | | |
| | | E. M. Keays, stenographer | 100 00 | | | |
| Ashcroft | | C. E. Gooding, manager | 110 00 | | | 40 p.c. of salary paid by C.P.R. |
| | | H. A. McCoy, day operator | 85 00 | | | " " |
| | | W. B. French, day operator | 80 00 | | | " " |
| | | R. A. Clark, night operator | 85 00 | | | " " |
| | | Magna Koelenbeck, clerk | 60 00 | | | |
| Doherty's Ranch | 24 | Commission office | 25 p.c. | | | |
| Lillooet Branch— | | | | | | |
| Pavilion | 21 | " | 50 p.c. T.L. tolls | 50 & 3 | 30 & 2 | |
| Lillooet | 22 | S. A. Macfarlane, opr. & l'man. | 60 00 | " | " | $5 per month for rent, fuel and light. |
| | | G. S. Tosh, messenger | 40 00 | | | |
| Lillooet—Pioneer Mines Branch— | | | | | | |
| Coronation | | Commission office | | | | |
| Fairhaven | | " | | | | |
| Mission Landing | | " | | | | |
| Seton Lake | | " | | | | |
| Tyaughton | | " | | | | |
| Dunlop | | Accommodation office | | | | |
| Main Line— | | | | | | |
| Dougherty's * | 24 | Commission office | 25 p.c. T.L. tolls | 25 & 2 | 25 & 1 | |
| Clinton | 10 | E. LeBourdais, opr. & lineman | 60 00 | " | " | $5 per month for rent, fuel and light. |
| 59 Mile House * | 12 | Commission office | 25 p.c. T.L. tolls | " | " | |
| 70 " * | 11 | " | " | " | " | |
| 74 " * | 4 | " | " | " | " | |
| 83 " * | 9 | " | " | " | " | |
| 100 " * | 17 | " | " | " | " | |
| 105 " * | 5 | " | " | " | " | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 115 | " | 10 | J. Foster, opr. and lineman.... | 60 00 | " | " | |
| 122 | " | 7 | Commission office..... | ..... | " | " | |
| 134 | " * | 12 | " ..... | 25 p.c. T.L. tolls | " | " | |
| 141 | " * | 7 | " ..... | " | " | " | |
| 150 | " | 9 | J. B. Rutledge, opr. and l'man. | 75 00 | 50 & 3 | 30 & 2 | $5 per month for rent, fuel and light. |
| Bella Coola Branch— | | | | | | | |
| 150 Mile House | | 0 | See Main Line..... | ..... | | | |
| Williams Lake | | 6 | Commission office..... | 25 p. c..... | | | |
| Onward Ranch | | 2 | " ..... | " ..... | | | |
| Borland's | | 9 | " ..... | " ..... | | | |
| Four Mile Creek | | 12 | " ..... | " ..... | | | |
| Bechers | | 16 | " ..... | " ..... | | | |
| Hanceville | | 28 | " ..... | " ..... | | | |
| Lees | | 4 | " ..... | " ..... | | | |
| Alexis Creek | | 13 | " ..... | " ..... | | | |
| Baylifts | | 19 | " ..... | " ..... | | | |
| Chilanco Forks | | 32 | " ..... | " ..... | | | |
| Tatla Lake | | 32 | " ..... | " ..... | | | |
| Kluna Kluna | | 13 | R. B. Demorest, operator..... | 75 00 | | | |
| Lowneses | | 31 | Commission office..... | 25 p. c..... | | | |
| Marvins | | 55 | " ..... | " ..... | | | |
| Moshers | | 7 | R. E. Mosher, lineman..... | 75 00 | | | |
| Canoe Crossing | | 25 | Commission office..... | 25 p. c..... | | | |
| Bella Coola | | 25 | Oscar Landry, operator ..... | 110 00 | | | |
| Horsefly Branch— | | | | | | | |
| Harpers Camp | | 33 | A. J. Patenaude, opr. & l'man.. | 60 00 | 50 & 3 | 30 & 2 | $5 per month for rent, fuel and light. |
| Quesnel Forks | | 31 | Grant Grinder, opr. & lineman. | 66 66 | " | " | " " " |
| Hydraulic | | 25 | Commission office..... | 50 p.c. T.L. tolls | " | " | |
| 158 Mile House | * | 8 | " ..... | 25 p.c. T.L. tolls | " | " | |
| Lynes | * | 11 | " ..... | " | " | " | |
| Soda Creek | | 9 | R. D. Lang, opr. & linemen... | 75 00 | " | " | |
| Fackards | * | 7 | Commission office..... | 25 p.c. T.L.tolls. | " | " | |
| Roweds | | 12 | " ..... | " | " | " | |
| Anders | * | 4 | " ..... | " | " | " | |
| Moffats | * | 5 | " ..... | " | " | " | |
| Windt's | * | 4 | " ..... | " | " | " | |
| Yorstons | * | 3 | " ..... | " | " | " | |
| Shepherds | * | 7 | " ..... | " | " | " | |
| Quesnel | | 14 | C. H. Preston, operator.. .... | 85 00 | " | " | House, fuel and light, free. |
| | | | G. Preston, messenger. ..... | 30 00 | | | |
| Barkerville Branch— | | | | | | | |
| Lafontaine | | | Commission office. ... ..... | 25 p.c. T.L.tolls. | | | |
| Lockes | * | 13 | " ..... | " | " | | |
| Cottonwood | * | 8 | " ..... | " | " | | |
| Wing Dam | * | 10 | " ..... | " | " | | |
| Stanley | * | 14 | " ..... | " | " | | |
| Barkerville | * | 16 | R. L. Murphy, opr. & lineman. | 69 00 | " | | House, fuel and light, free. |

19—V—7½

## GOVERNMENT TELEGRAPH SERVICE—*Continued.*

### YUKON LINE—*Continued.*

| Stations. | Intermediate Distance. | Position. | Salaries per Month. | Tariff from Ashcroft. | Night Rate. | Memo. |
|---|---|---|---|---|---|---|
| | Miles. | | $ cts. | | | |
| Barkerville Branch—*Con.* | | | | | | |
| Blackwater | 42 | D. Mitchell, operator | 75 00 | 75 & 5 | | Provisions supplied. |
| | | R. M. Spaulding, lineman | 70 00 | | | " " |
| Bobtail Lake | 37 | L. R. Seldon, operator | 75 00 | 75 & 5 | | " " |
| | | C. E. McWha, lineman | 70 00 | | | " " |
| Nechacco | 32 | A. Ferland, operator | 75 00 | 75 & 5 | | " " |
| | | J. D. Charleson, lineman | 70 00 | | | " " |
| Fraser Lake | 21 | M. L. Burnett, operator | 75 00 | 75 & 5 | | $1 per day' board allowance. |
| | | H. Worthington, lineman | 70 00 | | | " " |
| Stella | | H. LeDuke, operator | 75 00 | | | |
| Burns Lake | 55 | S. A. Courtney, operator | 75 00 | 1 00 & 7 | | Provisions supplied. |
| | | W. A. Gow, lineman | 70 00 | | | " " |
| Bulkley Summit | | Commission office | | | | |
| South Bulkley | 27 | W. Mitchell, operator | 75 00 | 1 00 & 7 | | " " |
| | | W. N. Clark, lineman | 70 00 | | | " " |
| Govt. Ranch | | Geo. Barrett, operator | 75 00 | | | |
| Aldermere | 52 | T. E. Hankin, operator | 75 00 | 1 25 & 10 | | " " |
| Glentanna | | Commission office | | | | |
| | | Henry Fink, l'man, Aldermere | 70 00 | | | " " |
| Telkwa | 2 | J. E. Lima | 25 p.c. T.L. tolls. | 1 25 & 10 | | |
| Moricetown | 28 | John Muir, operator | 75 00 | 1 25 & 10 | | " " |
| Hazelton | 28 | E. R. Cox, local manager | 110 00 | 1 00 & 7 | | $1 per day' board allowance. |
| | | W. E. Hasson, night opr | 100 00 | | | " " |
| | | G. W. McKay, day operator | 85 00 | | | " " |
| | | J. G. Halloren, " | 85 00 | | | " " |
| | | R. O. Fulton, clerk and mgr | 100 00 | | | |
| | | R. O'Brien, messenger | | | | |
| | | J. A. Thorne, line foreman | 100 00 | | | $1 per day' board allowance. |
| Hazelton and Prince Rupert Branch— | | W. Blackstock, lineman | 75 00 | | | |
| New Hazelton | 4 | T. N. Campbell, opr. & l'man | 75 00 | 1 00 & 7 | | $25 per month' board allowance. |
| Shandilla— | 16 | H. A. MacIsaac, opr. & l'man | 75 00 | 1 25 & 10 | | " " |
| Bostroms' | 14 | C. S. Fuller, opr. and lineman | 75 00 | " | | " " |
| Cedarvale | 7 | Commission office | 25 p.c. T.L. tolls. | " | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| McHugh's | 3 | H. P. Large, opr. and lineman. | 75 00 | " | " | " " |
| Lorne Creek | 10 | A. J. Morrison, opr. and l'man. | 75 00 | " | " | " " |
| Sheadys— | 10 | J. C. Overbeck, " | 75 00 | " | " | " " |
| Hardscrabble | 10 | H. S. Cunningham, opr. & l'man | 75 00 | " | " | " " |
| Kitselas | 10 | M. C. Harrison, opr. & l'man. | 80 00 | " | " | " " |
| Copper River | 7 | Commission office | 25 p.c. T.L. tolls. | 1 50 & 10 | | |
| Kitsum Kalum | 8 | M. R. Grimes, operator | 75 00 | " | " | " " |
| | | George Minchin, lineman | 70 00 | | " | " " |
| Terrace | | P. V. Hargett, operator | 75 00 | | | |
| Stewart Branch— | | | | | | |
| Cedar River | 35 | F. D. Wilson, operator | 75 00 | 1 50 & 10 | Provisions supplied. | |
| | | T. Mart, lineman | 70 00 | | " | " |
| Aivaush | 32 | P. R. Currie opr. and lineman | 75 00 | 2 00 & 15 | $30 per month board allowance. | |
| Alice Arm | 25 | R. H. A. Neilsen opr. and l'man | 75 00 | " " | " | " " |
| Goose Bay | 22 | J. G. Bryden, opr. and l'man. | 75 00 | " " | " | " " |
| Stewart | 57 | H. B. Birch, opr | 110 00 | " " | | |
| | | H. A. MacMartin, l'man | 75 00 | | | |
| Hazelton & P. R. Br.— | | | | | | |
| Graveyard Pt. | 15 | P. V. Haygitt opr. and l'man | 75 00 | 1 50 & 10 | $25 per month board allowance. | |
| Hole-in-Wall | 15 | C. W. Mitchell, opr. & l'man. | 75 00 | " " | " | " " |
| McLeod's | 8 | Wm. Inthout " | 75 00 | " " | " | " " (closed Mar. 12' '12). |
| Telegraph Point | 9 | V. F. Dunn " | 75 00 | " " | " | " " |
| Port Essington | | G. A. Taylor, agent | 10 00 | | | |
| Haysport | 16 | J. W. Ferguson " | 75 00 | " " | " | " " |
| Cassiar* | 9 | Accommodation office, Paul Wicks, lineman | 80 00 | " " | Telephone rental, $2.50 per month. | |
| North Pacific* | 10 | " | | " " | " | " " |
| Inverness* | 2½ | " | | " " | " | " " |
| Port Edward | | Accomodation | | | | |
| Prince Rupert | 13½ | F. W. Dowling, circuit mgr | 150 00 | 1 00 & 7 | | |
| | | L. W. Waugh, day operator | 110 00 | | | |
| | | Jas. M. Kelly, night operator. | 110 00 | | | |
| | | R. F. Pollard, lineman | 100 00 | | | |
| | | H. McMillen, messenger | $1 per day | | | |
| Georgetown* | 20 | Commission office | 25 p.c. T. L. tolls | 1 50 & 10 | | |
| Port Simpson* | 10 | H. C. Flewin, agent | 30 00 | " " | 'Phone also installed at Port Simpson hospital; the residence of Dr. Kergin, Port Simpson, and office of Georgetown Sawmill Co.; rental, $2.50 per month. | |
| Main Line— | | | | | | |
| Kispiox | 16 | Hugh Taylor, 25 p.c. commiss. | | " " | $30 per month, board allowance. | |
| 1st Cabin | | P. E. Smith, operator | 75 00 | | | |
| 2nd Cabin | 33 | C. A. Eby, operator | 75 00 | " " | Provisions supplied. | |
| | | L. T. Kenny, lineman | 70 00 | | " | " |
| 3rd Cabin | 25 | E. G. Ayliffe, operator | 75 00 | " " | " | " |
| | | J. Chilvers, lineman | 70 00 | | " | " |
| 4th Cabin | 20 | C. L. D. Maxwell, operator | 75 00 | 1 50 & 10 | " | " |
| | | J. Veale, lineman | 70 00 | | " | " |
| 5th Cabin | 20 | J. J. Doré, operator | 100 00 | 1 50 & 10 | " | " |
| | | E. L. Kelly, lineman | $3 per day | | " | " |

*Telephone Offices (on composite Telegraph and Telephone line).

## GOVERNMENT TELEGRAPH SERVICE—*Continued.*

### YUKON LINE—*Continued.*

| Stations. | Intermediate Distance. | Position. | Salaries per Month. | Tariff from Ashcroft. | Night Rate. | Memo. |
|---|---|---|---|---|---|---|
| | | | $ cts. | | | |
| Main Line—*Con.* | | | | | | |
| 6th Cabin | 20 | J. R. Barker, operator | 100 00 | 1 50 & 10 | | Provisions supplied. |
| | | C. C. E. Ellaby, lineman | $3 per day | | | " " |
| 7th Cabin | 19 | W. I. Weekes, operator | 100 00 | 1 50 & 10 | | " " |
| | | W. H. Blake, lineman | $3 per day | | | " " |
| 8th Cabin | 19 | Robert Todd, operator | 100 00 | 1 50 & 10 | | " " |
| | | A. McKay, lineman | $3 per day | | | " " |
| 9th Cabin | 17 | G. W. Smith, operator | 100 00 | 1 50 & 10 | | " " |
| | | L. Mason, lineman | $3 per day | | | " " |
| Echo Lake | 32 | W. S. Simpson, jr., operator | 100 00 | 1 50 & 10 | | " " |
| | | J. Huston, lineman | $3 per day | | | " " |
| 25 Mile Cabin | 25 | G. T. Waring, operator | 100 00 | 1 75 & 10 | | " " |
| | | Joseph Williams, lineman | $3 per day | | | " " |
| Iskoot | 16 | G. W. Hughes, operator | 100 00 | 1 75 & 10 | | " " |
| | | Jos. W. Makemson, lineman | $3 per day | | | " " |
| Telegraph Creek | 61 | A. S. Gillespie, operator | 100 00 | 1 75 & 10 | | $1 per day, board allowance. |
| | | A. J. Charleson, line foreman | 150 00 | | | " " |
| Shesley | 45 | F. N. Jackson, opr. & lineman | 82 50 | 1 75 & 10 | | Provisions supplied. |
| Nahlin | 61 | J. T. Pilling, operator | 82 50 | 2 00 & 15 | | " " |
| | | C. W. Vance, lineman | 75 00 | | | " " |
| Nakina | 49 | Edward Barrett, opr. & lineman | 82 50 | 2 00 & 15 | | " " |
| Atlin | 63 | A. B. Taylor, local manager | 116 66 | 2 00 & 15 | | $60 per month, board allowance. |
| | | J. B. Watson, operator | 100 00 | | | " " |
| Tagish, Y. T. | 75 | D. Allen, operator | 82 50 | 2 25 & 15 | | Provisions supplied. |
| | | B. Keeley, lineman | 75 00 | | | " " |
| Carcross, Y. T. | 18 | S. E. Chambers, operator | 82 50 | 2 25 & 15 | | $40 per month, board allowance. |
| White Horse, Y. T. | 65 | H. Gilchen, district supt. | 210 00 | 2 50 & 15 | | |
| | | G. S. Fleming, operator | 155 00 | | | |
| | | Lyle Larsen, messenger | 65 00 | | | |
| Lower Laberge | 59 | G. C. Walker, opr. & lineman. | 82 50 | 2 50 & 15 | | Provisions supplied. |
| Hootalinqua | 30 | R. T. McDonald, opr. & l'man. | 82 50 | 2 50 & 15 | | " " |
| Livingstone Creek Branch (Telephone Line only)— | | | | | | |
| Mason's Landing | 35 | Commission Office | 25 p.c. T.L. tolls | 2 50 & 15 | | |
| Livingstone Creek | 35 | " | " | 2 50 & 15 | | |

| | | | | | |
|---|---|---|---|---|---|
| Main Line— | | | | | |
| Big Salmon | 34 | Jas. Withrow, operator | 82 50 | 2 50 & 15 | Provisions supplied. |
| | | Henry Breaden, lineman | 75 00 | | |
| Yukon Crossing | 38 | H. McMillan, operator | 82 50 | 2 75 & 15 | " " |
| | | H. O. Lakken, lineman | 75 00 | | " " |
| Carmacks | 42 | R. Young, operator | 82 50 | 2 75 & 15 | " " |
| Fort Selkirk | 8 | R. P. Hall, opr. & lineman | 82 50 | 2 75 & 15 | " " |
| Coffee Creek | 30 | O. McDonald, operator | 82 50 | 2 75 & 15 | " " |
| | | Angus Morrison, lineman | 75 00 | | " " |
| Stewart River | 75 | B. DeWitt, opr. & lineman | 82 50 | 2 75 & 15 | " " |
| Ogilvie | 23 | W. C. Fraser, opr. & lineman | 82 50 | 3 00 & 20 | " " |
| Dawson | 48 | Wm. Brownlow, local manager | 150 00 | 3 00 & 20 | $100 per month, board allowance. |
| | | Geo. A. McLachlan, operator | 125 00 | | " " |
| | | J. P. Champagne, cashier | 125 00 | | " " |
| | | C. A. Couture, line foreman | 125 00 | | " " |
| | | C. Albert, messenger | $3 per day | | |
| Forty Mile | 55 | W. Lafontaine, opr. & lineman | 82 50 | 5 25 & 20 | Provisions supplied. |
| International Boundary | 40 | Connection made here with U. S. Govt. Alaskan Line | | | |

YUKON TARIFFS.

The rates given for points north of Quesnel are one-third less than those primarily adopted, which were calculated on the general basis of 50 cents for 100 miles and 25 cents for each additional 100 miles, counting the distance from Ashcroft.

*Exceptional Rates.*—Hazelton to Ashcroft 1-00 and 7, June 1, 1910; Prince Rupert to Ashcroft, 1-00 and 7, November 1, 1909.

The local rates between offices north of Quesnel are calculated on the basis of 50 cents for 100 miles and 25 cents for each additional 100 miles, and the local rates between offices north of Atlin are fixed at 50 cents for each 100 miles.

*Cable Messages.*—On transatlantic business, the word rate is twice as much as the additional word rate given in the list for all points north of Ashcroft-Barkerville, 3x2 = 6; Dawson 20x2 = 40c. per word.

On transpacific business the word rate is the additional word rate plus 4c.; Barkerville, 3 + 4 = 7c.; Dawson, 20 + 4 = 24c. per word to or from Ashcroft.

*Press Despatches.*—For the Yukon line the rate is 1 cent per word, minimum charge, $1; this applies to the whole line. Exception, Barkerville-Ashcroft section (local), minimum charge 50 cents.

Yukon system connects at boundary with U.S. Sig. Service Telegraph System.
" " Ashcroft with Canadian Pacific Railway Telegraph.
" " Blackwater with Fort George and Alberta Telephone Company.
" " Carcross with W. P. and Y. Ry. Telegraph.
" " Quesnel Forks with Quesnel Hydraulic Co.'s line to Hydraulic.

## GOVERNMENT TELEGRAPH LINES: TARIFFS.

SPECIAL TARIFF.

*Cable Messages.*—Rates for cable messages passing over the Yukon line will be found in connection with the Yukon tariff on this page.

Elsewhere, the rate for transatlantic messages passing over the Government lines is the same as for ordinary through messages, excepting where the ordinary tariff is more than 25 cents; in such cases the Government line rate is 4 cents per word, with a minimum charge of 25 cents. For example:—

For a message of six words or less, the charge is 25 cents for Government lines.

For a message of seven words the charge is (7 x 4) 28 cents for Government lines.

For a message of twelve words the charge is (12 x 4) 48 cents for Government lines.

In every case the counting of words includes the address and signature in the same way as for transatlantic cable tolls.

*Press Despatches.*—The rate for press despatches on the Government lines (excepting the Yukon line), is 20 cents per 100 words; no single message less than 20 cents.

For the Yukon line the rate is 1 cent per word, minimum charge $1; this applies to the whole line. Exception, Barkerville-Ashcroft section (local), minimum charge 50 cents.

## REGULAR TARIFF.

### NOVA SCOTIA.

*Lines in Cape Breton.*

*Local rate* between offices..... 25-1*
*Through rate,* on business exchanged with the Western Union Tel. to and from North Sydney transfer office..... 15–1

*Night messages* are exchanged with the Western Union Telegraph Company for offices on these lines. Rate, 1 cent per word with minimum of 15 cents. The local night rate is 1 cent per word with minimum of 25 cents.

*Line from Barrington to Cape Sable—Local rate, 12-1.*

Newellton.....Through rate 12-1 from Barrington, W.U. office.
Cape Sable Lighthouse..... " " "

This line is now operated by the local telephone company. Terms of lease provide for former telegraph rate as above not being exceeded.

### NEW BRUNSWICK.

*Line from Chatham to Point Escuminac.*

*Local rate* between offices..... 25–1
*Through rate,* on business exchanged with the G.N.W. Tel. Co., to and from Chatham transfer office..... 15–1

*Bay of Fundy.*

*Line from Eastport, Me., to Campobello, Grand Manan, and Whitehead Islands:—*

*Local rates* between offices on Grand Manan and Whitehead Islands, 15-1; Grand Manan and Campobello Island, 25-2; The Islands and Eastport, Me., 25-2, W.U.O.
*Through rate* same as local rate on business exchanged with W. U. Tel. at Eastport..... 25–2

### QUEBEC.

*Anticosti Island.*

*Local rate* between offices..... 25–1
Between offices on Anticosti Island and Gaspé..... 50–2
Between offices on Anticosti Island and Gaspé on the North Shore St. Lawrence and Chicoutimi lines..... 50–2
*Through rate,* same as local rate on business exchanged with G.N.W. Tel. at Gaspé..... 50–2

*Magdalen Islands.*

*Local rate* between offices..... 25–1
Between offices on Magdalen Islands and offices on Government lines on Cape Breton..... 50–2

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* Where the tariff rate is entered as 25-1 or 25-2, &c., the meaning is that the rate is 25 cents for ten words and 1 cent or 2 cents for each additional word.

*Through rate,* on business exchanged with Western Union Tel. at North Sydney same as local rate.. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. 50–2

Special winter rate for letters exchanged with mail at Bay St. Lawrence, ½ cent per word. (See note in report 1906-7, p. 8.)

### *St. Pauls Island.*

Between St. Pauls Island and offices on Government lines in Cape Breton.... 50–2

*Through rate* to and from North Sydney on business exchanged with the W.U. Tel., same as local rate.. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. 50–2

### *North Shore St. Lawrence and Chicoutimi.*

*Local rate* between offices within 100 miles apart.. .. .. .. .. .. .. .. .. 15–1

Between offices over 100 miles apart.. .. .. .. .. .. .. .. .. .. .. .. .. 25–1

Between offices on these lines and Anticosti via Long Point.. .. .. .. .. 50–2

*Conjoint rate* between offices on Government lines west of Bersimis and offices on the G.N.W. line as far as and including Quebec.
(Equally divided between Company and Government lines).. .. .. .. .. .. 25–2

*Conjoint rate* between offices on Government line east of and including Bersimis and G.N.W. to Quebec (Government line, 25-1; Company's line 15).. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. 40–2

*Through rate* for Government line offices west of Bersimis, to be added to G.N.W. tolls from Quebec.. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. 15–1

*Through rate* for Government line offices east of and including Bersimis, to be added to G.N.W. tolls from Quebec.. .. .. .. .. .. .. .. .. .. .. .. .. 25–1

NOTE.—The above lines connect with the G.N.W. Telegraph system at Chicoutimi and at Bay St. Paul and Murray Bay, but the checking of all through business exchanged with the company is done at Quebec.

### *Quarantine System.*

### *Line from Quebec via Orleans Island and Isle aux Reaux.*

*Local rates* between offices:—

Quebec and Grosse Isle.. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. 25–1

Quebec and Orleans Island and Isle Reaux.. .. .. .. .. .. .. .. .. .. .. 15–1

Orleans Island and Grosse Isle.. .. .. .. .. .. .. .. .. .. .. .. .. .. .. 25–1

Isle Reaux and Grosse Isle.. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. 15–1

On Orleans Island.. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. 15–1

*Through rate* same as local on business exchanged with G.N.W. Tel. at Quebec.

### *Orleans Island Telephone System.*

*Local rates* between offices:—

| | Conversations, 3 minutes. | Messages, 20 words and 5 words. |
|---|---|---|
| St. Petronelle and St. François and intermediate.. .. .. | 5c. | 5–2 |
| Quebec exchange, St. François and intermediate.. .. .. | 15c. | 15–5 |

*Through rate* 5c. for Government line plus regular tolls of the Bell Telephone Co. for points beyond Quebec.

*Beauport-Laval Line (Telephone).*

*Local rate* between offices:—

| | Conversations, 3 minutes. | Messages, 20 words and 5 words. |
|---|---|---|
| Beauport and Laval and intermediate | 10c. | 10–3 |
| Quebec exchange and Laval and intermediate | 15c. | 15–5 |
| *Through rate* to be added to the Bell Telephone Company's rate beyond Quebec | 10c | 10–5 |

NOTE.—Of these, exchange and through rates, $\frac{2}{3}$ goes to the company in each instance.

The rate of charge for telephones, aside from the commission offices, has been fixed as hereunder.

For connection within $\frac{1}{2}$ mile of regular station, $9 per annum.

For each additional $\frac{1}{2}$ mile of line, $4 per annum. The regular tolls being charged in addition on all main line connections.

*Charlesbourg and Martineau Mills.*

*Line connects with Bell Telephone System at Charlesbourg.*

| | Conversations, 3 minutes. | Messages, 20 words and 5 words. |
|---|---|---|
| *Local* between points on the Government line | 10c. | 10–3 |
| *Local* between points on the Government line and the Quebec Exchange (Of this, 50 per cent belongs to the company.) | 20c. | 20–5 |
| *Through* between points on the Government line and points on the system of the Bell Telephone Company, to which the Company's established rates from Quebec are to be added. | 10c. | 10–3 |

*Timiskaming District (Telephone Line).*

| | Conversations, 3 minutes. | Messages, 20 words and 5 words. |
|---|---|---|
| Kippewa Dam—North Timiskaming and intermediate | 25–5 | 25–5 |

Same rate for both local and through business, that is business exchanged with the connecting line at North Timiskaming.

ONTARIO.

*Pelee Island Line (Telephone).*

*Local rate* between offices:—

| | |
|---|---|
| On the mainland Leamington-Point Pelee | 15–1 |
| On the island | 15–1 |
| On the island and Leamington | 25–1 |
| *Through rate* on business exchanged with the G.N.W. Tel. at Leamington | 15–1 |

This line is operated by telephone in conjunction with the Bell Telephone Co. Charges for conversations being based on local tolls plus the regular tolls of the company beyond Leamington. (Local rates, 15c. or 25c. for three minutes conversation and proportionate charge for any period in excess of three minutes.)

NORTHWEST TERRITORIES—SASKATCHEWAN AND ALBERTA.

*Qu'Appelle—Edmonton Line.*

*Local rates* between offices within 12 miles apart.. .. .. .. .. .. .. .. .. .. 15–1
Between offices already reached by company's lines, excepting when the company's rate is higher.. .. .. .. .. .. .. .. .. .. .. .. .. .. 25–2
Between offices solely on Government line.. .. .. .. .. .. .. .. .. .. 35–2
*Through rates,* for business exchanged with the connecting companies, same as the above local rates.

*Edmonton-Athabaska-Landing and Peace River Line.*

*Local rates* between offices.. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. ..15–1 to 60–4
Maximum charge between offices in the two divisions above and below Edmonton.. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. 75–5
(A tariff sheet was issued for circulation 1st February, 1913.)

*Moosejaw—Wood Mountain Line.*

*Local rate* between offices.. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. 25–2
*Through rate* the same.

BRITISH COLUMBIA.

*Vancouver Island Lines.*

*Local rates* between offices.. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. 25–2
*Conjoint rate* between offices on Government lines and C. P. Tel. line on Vancouver Island.. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. 25–2
*Through rate,* business exchanged with Can. Pac. Tel. at Nanaimo and Victoria, same as local rate.. .. .. .. .. .. .. .. .. .. .. .. .. .. .. 25–2

*Golden-Windermere Line (Telephone).*

Messages.

*Local* and *through* rate.. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. .. 25–2
Subscribers for telephones at $36 per year are exempt from above tolls for messages.

*Salt Spring Island, Pender Island, &c. (Telephone).*

*Local rate*—Conversations, two minutes.. .. .. .. .. .. .. .. .. .. .. .. 25c.
Each additional minute... .. .. .. .. .. .. .. .. .. .. .. .. .. 15c.
*Through rate*—The above line connects with the B. C. Telephone Co. at Duncan Station. The company's tolls are added to the above rates on through business.
*Conjoint rate*—Between offices on the above islands and offices on the C. P. line, on Government line reached by the C. P. Tel. on Vancouver Island.. .. .. 25–2

*Kamloops-Okanagan Valley System (Telephone).*

*Local and through rates,* 25c. to 60c., according to distances between offices 100 miles apart and over, in stretches of 50 miles:—

Where message rate is 25c. for 10 words, 2c. for extra words; convers'n 10c. p. min.
" 35c. " 3c. " " 15c. "
" 40c. " 3c. " " 20c. "
" 50c. " 4c. " " 25c. "
" 60c. " 4c. " " 30c. "

Minimum charge for message, 25c.; for conversation, 15c.
(A tariff sheet was issued for circulation 1st January, 1912.)

# APPENDICES

## GOVERNMENT TELEGRAPH SERVICES

### ANNUAL REPORT FOR 1912-13.

Sectional reference (1) Cape Breton lines.
(2) Bay of Fundy lines.
(3) Magdalen Islands.
(4) Anticosti Island lines.
(5) North Shore, St. Lawrence and Chicoutimi.
(6) Quarantine Telegraph system.
(7) Pelee Island system.
(8) Northwest lines.
(9) " (Inspector).
(10) British Columbia lines.
(11) Kamloops-Penticton lines.
(12) Yukon Telegraphs.
(13) Cable ship *Tyrian*.

## REPORT No. 1—CAPE BRETON.

OFFICE OF THE DISTRICT SUPERINTENDENT,
ST. JOHN, N.B., July 23, 1913.

D. H. KEELEY, Esq.,
General Superintendent Government Telegraph Service,
Ottawa.

DEAR SIR,—I beg to submit annual report for the fiscal year ended March 31, 1913, covering the Government lines in Cape Breton, N.S., viz:—

| — | Miles in Operation. | No. of Offices. | No. of Operators. | No. of r p rre and linemen. |
|---|---|---|---|---|
| At date of last report | 684½ | 83 | 83 | 33 |
| Added during the year | 97½ | 4 | 4 | ..... |
| Closed during the year | ..... | 2 | 2 | ..... |
| | 782 | 85 | 85 | 33 |

*Conditions Generally.*

Notwithstanding that the lines during the previous year were only hurriedly gone over, due to appropriations being curtailed, limiting general repair work, they have for the most part rendered good service, there being but few protracted delays due to extended line troubles, and these were chiefly caused by sleet; Cape Breton having during the past season been in the wake of three severe storms of this nature.

On April 1, the night letter service was inaugurated, thus giving all offices the benefit of enjoying a rate of 50 words for 25 cents on the Government lines, and a rate of 15 cents for 50 words to all offices reached by connecting telegraph companies. This new innovation filled a long felt want, providing as it does an enlarged service at a small cost, enabling patrons at isolated points and where mails are very irregular, to cover their urgent requirements by telegraph at a small outlay.

*New Offices.*

Hayes River, N.S., opened July 8, Hugh R. Beaton, agent and operator, remuneration 25 per cent Government tolls, guaranteed $50 per annum.

L'Archeveque, N.S., opened June 1, W. Kempt, agent and operator, remuneration 25 per cent Government tolls, guaranteed $50 per annum.

Leitche's Creek, N.S., opened February 28, J. D. McCormack, agent and operator, remuneration 25 per cent Government tolls, guaranteed $50 per annum.

Little Lorraine, C.B., opened December 3, John Gallant, agent and operator, office conducted on a commission basis of 25 per cent Government tolls, without guarantee.

*Offices Closed.*

Ferry Landing, N.S., office closed December 6, due to resignation of Miss Margaret L. McRitchie, agent and operator.

Indian Brook, N.S., office closed December 18, due to resignation of Miss Sadie McDonald, agent and operator.

Both these offices remained closed at the end of the fiscal year.

*Change of Agents.*

Alder Point, Mrs. John Arsenault, agent and operator, discharged October 31; office closed and not re-opened until November 18; Miss Maude M. Plant, agent and operator, remuneration 50 per cent Government line receipts, guaranteed $50 per annum.

Big Lorraine (accommodation office), Miss Laura M. Wilcox, agent and operator, superseded January 15 by Michael P. Dowd.

Castle Bay, Miss Catherine McDonald, agent and operator, resigned June 18, office closed until August 18 and opened with Miss Catherine McInnis in charge, salary 25 per cent commission, guaranteed $50 per annum.

Eastern Harbour, Charles J. Au Coin, agent and operator, resigned April 30, succeeded by Moses S. Au Coin; no change in remuneration which remains at 50 per cent commission, Government line tolls.

East Scatterie, J. T. Martell, agent and operator, resigned May 20, succeeded by Miss Theresa Nearing, remuneration changed from 25 per cent commission, Government line tolls, guaranteed $50 per year, to 25 per cent Government line tolls, without guarantee.

Enon, Miss Effie McDonald, agent and operator, resigned February 28, office re-opened March 21, with Mr. A. D. Morrison as agent and operator, no change in remuneration.

Groves Pt., Frank Dunlop, agent and operator, superseded Roderick Campbell, no change in remuneration. This office was closed between October 31 and December 18, pending appointment of new agent.

Ingonish, Mrs. S. S. Burke, agent and operator, superseded January 1, by John E. McLeod.

Little Bras D'Or, Miss D. E. Grantmyar, agent and operator, resigned April 14, succeeded by Margaret Richards, no change in remuneration. This office was closed from September 14 until December 3, pending appointment of new agent.

Loch Lomond, Wm. Morrison, agent and operator, died February 7, office at close of year in charge of Forbes McDonald, acting agent, no change in remuneration.

Mainadieu, Miss Gertrude Lewis, agent and operator, resigned December 31, office closed during January and opened February 4 with Mrs. James McDougall as agent and operator, remuneration changed from 25 per cent commission, guaranteed $50 per annum, to 25 per cent Government tolls without guarantee; by this change rental of $20 per year paid to Jarves D. Dickson, was unnecessary.

Marion Bridge, Miss Annie R. McDonald, agent and operator, died August 2, succeeded by Austin Morrison, no change in remuneration.

Port Hastings, Mary C. McFarlane, agent and operator, resigned April 1, succeeded by Mrs. Annie Petrie, no change in remuneration.

St. Peters, Mr. R. Morrison, agent and operator, superseded June 30, by Miss Catherine McKenzie, no change in remuneration.

Bay St. Lawrence, Vilbon Theriault, agent in charge of cable station, dismissed December 31 and re-engaged until after re-opening of navigation, and at the close of the departmental year Mr. Theriault was still in charge of the office.

On account of illness, leave of absence was granted during the year to Mrs. V. Theriault, Assistant Chief Operator at Bay St. Lawrence; Miss Effie McDonald at Enon; Miss Finlayson, Grand River; Mrs. McDonald, Gabarus Lake and Mrs. A. D. Morrison, Point Esprit, temporary arrangements in all cases having been made, under the authority of the Department.

*Changes, General Repairers.*

Sydney S. Burke, Ingonish, general repairer, covering section between Big Bras D'or and Meat Cove, was superseded on December 31 by James G. Dunlap of Baddeck, no change in remuneration, salary $45 per month and expenses while out on line.

E. M. Dickson, general repairer, Louisburg, covering section between Sydney, Scatterie Island and Enon; superseded on July 21 by D. Stanley Hooper, of Louisburg, salary $45 per month, and expenses while out on lines.

*Changes in Section Repairers.*

John Arsenault, repairer, Alder Point, covering section between Little Bras D'Or and Alder Point, superseded October 31 by John R. Tobin, of Little Bras D'Or, no change in salary allowance.

Alexander McFarlane, sr., repairer, Margaree harbour, covering section between Margaree harbour and South-west Margaree, also loop to North-east Margaree, died January 21, succeeded April 1 by John J. Miller of Margaree Ford, no change in salary allowance.

Angus S. McDonald, repairer, Bay St. Lawrence, covering section between Meat Cove, Money Point and Aspy Bay, superseded December 31 by Patrick Capstick of Bay St. Lawrence, no change in salary allowance.

Murdock McAskill, repairer, Cape North, covering section between Aspy Bay and Neils Harbour, superseded January 1 by Malcolm McAskill, of Cape North, no change in salary allowance.

Frank Warren, repairer, Ingonish, covering section between Neils Harbour and Ingonish Ferry, superseded January 1 by Rupert Curtis of North Ingonish, no change in salary allowance.

Edward Fraser, repairer, Inverness, covering section between Half Way Shanty and Pollets Cove, superseded September 1 by Archibald Fraser of Pleasant Bay, no change in salary allowance.

J. A. Campbell, repairer, Port Hood, covering section between Mabou and Judique, superseded September 1 by Angus J. McDonald, of Inverness.

Lazarie A. Poirier, of Eastern harbour appointed to fill position vacated by John Chaisson, station repairer, covering section between Cheticamp and Barren, date of appointment May 15, and salary increased from $50 to $80 per annum. Increase being necessary on account of rough section of country with no regular highway, travel for the most part having to be done on horseback.

Joseph L. Chaisson, repairer, Cheticamp, covering section between Cheticamp and Grand-Etang, resigned November 20, position unfilled up to end of March.

*Reconstruction.*

On account of the unsafe condition of the line between Margaree harbour and North-east Margaree, it was deemed advisable to reconstruct the same, poles being procured locally of native wood, spruce and fir.

Between 10 and 13 miles of new line having been built under the foremanship of P. A. Doyle, general repairer, Inverness.

Between Port Hastings and Inverness, 1,008 poles purchased in the previous year were set, under foremanship of J. F. McMillan, general repairer of Port Hastings, also between Port Hood and Mabou, 299 new poles were put in, making practically a new line between these last named points.

*General Repairs.*

Hawkesbury, Grand River section, in charge of Murdock McRae, general repairer. The line was carefully covered during the summer and fall, 210 new poles

having been put in and 212 resets made, also considerable work in the way of straightening poles, cutting out slack wire and renewing defective brackets, the line at the close of the season being in good shape to carry it along through the winter.

Sydney-Scatterie section, in charge of D. Stanley Hooper, general repairer. On account of no general work being done on this section during the previous year, the line was found in bad shape, necessitating the general repairer being kept on the work continually during the season, chiefly in resetting poles, making renewals where absolutely necessary, cutting out slack, replacing brackets and clearing the line from bushy undergrowth.

Big Bras d'Or-Meat Cove section, in charge of Sydney S. Burke, general repairer. This section of line did not receive attention until early in October, due to the general repairer being otherwise employed, general repair work was confined chiefly to the section between North Ingonish and Meat Cove, and consisted chiefly of resetting and straightening poles and cutting out slack wire. This line, on account of its age, is in fairly good order, it having been repoled during 1910-11. The section from Ingonish to Big Bras d'Or requires considerable atention, and it is proposed to have this work taken in hand during the coming season.

North Sydney, Boularderie section, in charge of general repairer Joseph Logue, of North Sydney. On account of Mr. Logue being detailed on construction work in the early part of the season, it was not possible to take in hand general repair work of any magnitude. The lines, however, were carefully gone over and put in shape to withstand the winter. A more general reconstruction is contemplated during the present season.

Port Hastings-Whycocomagh-Inverness, in charge of John F. McMillan, general repairer, Port Hastings. This repairer was in charge of reconstruction work on the main line between Port Hastings and Mabou for the most of the season, which left but little time to cover the section between Strathlorne and Whycocomagh, work on which was postponed until this season, when it is proposed to give the line a thorough over-hauling, renew all defective poles, &c.

Inverness and Meat Cove section, in charge of general repairer, P. A. Doyle, of Inverness. The work of general repairs was chiefly conducted by the station repairers along the route, due to repairer Doyle being engaged on construction work during practically the whole season. Highway repairs, however, that were absolutely necessary were carefully attended to, and the line came through the winter with little or no interruption.

NEW LINES CONSTRUCTED AS UNDER.

| | Miles of poles. | Miles of line. |
|---|---|---|
| N.E. Margaree—Big Intervale | 10 | 10 |
| S.W. Margaree—South Ainslie | 23 | 23 |
| Whycocomagh—Little Narrows | 8½ | 8½ |
| Loop to Hayes River | 1½ | 3 |
| Loch Ban—Scottsville | 7 | 7 |
| Whycocomagh—Orangedale | 8 | 8 |
| S. L. Ainslie—Whycocomagh | 7 | 7 |
| North Sydney, Sydney Mines—Florence | 6½ | 7 |
| Little Narrows—Washabuck | 12 | 12 |
| Eskasoni—McAdams Lake | 2½ | 5 |
| Grand Narrows—Lower Shenacadie | 7 | 7 |
| | 93 | 97½ |

*Construction.*

Line between N.E. Margaree and Big Intervale, constructed under foremanship of P. A. Doyle, general repairer of Inverness. Native wood, spruce and fir, was used for poles and No. 6 galvanized iron wire and white porcelain insulators were used in construction.

Line between S. W. Margaree and South Ainslie, originally intended to be erected along the east side of Margaree river was changed and line located on west side. The work was done under foremanship of P. A. Doyle, general repairer, of Inverness. Native wood, spruce and fir, was used for poles and No. 6 galvanized iron wire, and white porcelain insulators were used in construction.

Line between Whycocomagh and Little Narrows, erected under foremanship of P. A. Doyle. Poles arranged for by general repairer, McMillan in 1911. All native wood, spruce and fir, was used for poles. Line completed in March, 1913.

Loop line to Hayes river from off main line, west side of Lake Ainslie, erected under foremanship of P. A. Doyle, spruce and fir poles being used, with No. 6 galvanized iron wire and white porcelain insulators used on construction.

Loch Ban and Scottsville, via the mines, this was originally intended for a loop, but was changed to a single wire line. Work done under P. A. Doyle, as foreman. Native wood, spruce and fir being used for poles, No. 6 galvanized iron wire and white porcelain insulators used in construction.

Whycocomagh and Orangedale, work done under P. A. Doyle. Native wood, spruce and fir being used for poles, No. 6 galvanized iron wire and white porcelain insulators used in construction.

Line between S. L. Ainslie and Whycocomagh, erected under P. A. Doyle, as foreman. Native wood, spruce and fir being used for poles, No. 6 galvanized iron wire and white porcelain insulators used in construction.

Line between North Sydney, Sydney Mines and Florence, erected by Joseph Logue as foreman. Native wood, spruce and fir being used for poles, No. 6 galvanized iron wire and white porcelain insulators used in construction. To save a duplicate pole line, it was arranged with the American Telephone and Telegraph Company to use their poles for a distance of half a mile near McKay's mines.

Line between Little Narrows and Washabuck Centre; poles arranged for by John D. McNeil, of Iona in 1911, work completed by Joseph Logue as foreman in 1912.

Line between Eskasoni and McAdams Lake, consisting of 2½ miles of poles and 5 miles of wire. Work done under Joseph Logue as foreman. Native wood, spruce and fir being used for poles, No. 6 galvanized iron wire and white porcelain insulators used on construction.

Line between Lower Shenacadie and Grand Narrows, authorized in 1910 not completed until 1912 on account of prevalence of small-pox in the vicinity. Work done under foremanship of Joseph Logue, North Sydney. Native wood, spruce and fir being used for poles, No. 6 galvanized iron wire and white porcelain insulators used on construction.

The only section of line remaining uncompleted at the close of the year was between Baddeck, Nyanza and Rossville. The poles on the first section, 8 miles, were erected in 1911 by foreman John C. McRae of Middle River. Work in Inverness County finished by P. A. Doyle, 1912. Balance of work in Victoria County only partly completed by A. J. Grant, foreman, Little River. It is expected that the line will be completed early this season.

Respectfully submitted,

D. C. DAWSON,
*Superintendent.*

## REPORT No. 2.—BAY OF FUNDY.

OFFICE OF THE DISTRICT SUPERINTENDENT,
FLAGG'S COVE, GRAND MANAN, N.B., May 15, 1913.

D. H. KEELEY, Esq.,
General Superintendent Government Telegraph Service,
Ottawa, Ont.

DEAR SIR,—In accordance with your letter of March 20, I beg to submit herewith my report on the lines under my charge for the year ending March 31, 1913.

I am pleased to report the lines in good working order at the present time.

From March 3, 1912, up to November 20, the Grand Manan-Campobello cable was broken mid-way in the Grand Manan channel, and the *Tyrian* undergoing repairs at this time could not attend to it. On November 11, the ship arrived, the weather was stormy at the time and they could not get to work on the cable; repairs were completed however on the 20th of November and the cable has given satisfaction up to the present, with the exception of the annoyance caused by induction from the arc-lights in Eastport; this trouble could be greatly reduced, if not eliminated, by stretching a wire from the outer coating of the cable at Eastport cable hut and transposing it with the present line wire up to the Western Union office; another source of trouble and cause of delay in the transmission of telegrams arises from the fact that at the New England Central telephone office, in Eastport, they have the wire looped and thus are able to switch the Western Union off the line when they are handling a long-distance call; it appears to make little difference to them whether a telegram is in course of transmission or not; it is a very undesirable arrangement for the prompt handling of telegrams. I understood that the specification for this connection of the New England Company, called for a bridged connection thus insuring us connection at all times with our repeating office (The Western Union at Eastport). Mr. McDonald said that this would be attended to the next time that there was work to be done on the cable.

After completing repairs on the Grand Manan-Campobello cable, Mr. McDonald took a bad leak out of the Seal Cove-Gannet Rock cable before leaving the Bay of Fundy.

On October 13, 1912, the SS. *Lansdowne* parted the Gannet Rock cable with her anchor but it was promptly attended to; the *Tyrian* arrived a few days later and repaired it; they also took out another leak, this time on the shore end at Seal Cove where the cable had been crushed and the core exposed. This end has been trenched to low-water mark and the cable is in good condition. This line in connection with the Southern Head line is over-crowded, and the generators in the instruments used are not heavy enough to ring through at all times especially in wet weather; the Southern Head-Seal Cove section of the line needs a thorough overhauling and a new wire strung, this with telephone using condensers and six-bar generators, would put this line in first-class order for some time to come.

The White Head-Grand Harbour telephone line is in good working order and has been throughout the year.

The Flagg's Cove-Seal Cove telegraph line is in good order and working well.

The only changes in the staff since last report are at Eastport, where Mr. Cushing has resigned, and at Flagg's Cove; the former place is filled by Miss M. E. Hurley.

Appended hereto is the tabulated statement of offices.

I remain,
Yours faithfully,

J. R. PARKER,
*District Superintendent.*

## REPORT No. 3.—MAGDALEN ISLANDS.

OFFICE OF THE DISTRICT SUPERINTENDENT.
GRINDSTONE, MAGDALEN ISLANDS, April 1, 1913.

D. H. KEELEY, Esq.,
General Superintendent Government Telegraph Service,
Ottawa, Ont.

DEAR SIR,—I beg to submit my annual report from March 31, 1912, to March 31, 1913.

On July 5, a line was strung to connect the Marconi station here with all our Government offices. This connection was from the Marconi station to the public road where the main line passes, the Silverton sounder instrument and the batteries which were not in use at Mr. W. G. Leslie's were removed for use at the station.

About the middle of August, the Entry Island cable to Amherst Harbour (only means of communication there for the winter) was broken by the dredge working at Amherst Harbour where the cable is laid, as I had no spare cable to splice an extension which had to be made, telephone communication there has remained interrupted since.

On January 13 last, we were much pleased to communicate again with the mainland by means of the Meat Cove cable which had been interrupted since March, 1912. This line affords efficient means of communication and is much appreciated by the people of the Magdalen Islands for the valuable service it renders, for example the cheap lettergram rate as well as the information and attention given by the operator of Meat Cove to the people.

On July 16, a severe thunder storm affected the line and some instruments were injured. The rest of the line has worked well during the year, close attention was given to the line by the repairers and very few complaints, interruptions being soon remedied.

I have the honour to be, sir,

A. LE BOURDAIS,
*Dist. Supt.*

## REPORT No. 4.—ANTICOSTI ISLAND.

ENGLISH BAY, ANTICOSTI, April 1, 1913.

D. H. KEELEY, Esq.,
General Superintendent Government Telegraph Service,
Ottawa, Ont

DEAR SIR,—I beg leave to submit my annual report for the year ending March 31, 1913.

We have no additional mileage, but the repairers duties are numerous and hazardous, the travelling the whole length of the line is extremely dangerous, especially in fall and spring, and consequently costly.

On March 30, 1912, the Gaspé-Anticosti cable became interrupted and after several attempts to repair it with local men, it had to be abandoned. The ss. *Tyrian* having been nearly all season under repairs, this cable could not be repaired and is still interrupted. On January 23, the Long Point-Anticosti cable failed and the break has not yet been located owing to the ice covering all the reefs and sea. Luckily for us, the wireless operators could not be taken off the Island last fall and arrangements having been made with the Marconi company, our business is handled by them to our great satisfaction.

I am pleased to say that our land line has been in good working order the whole year round, except a few interruptions, all of short duration.

Fox Bay office is still closed and in communication by phone with Heath Point station. Business is telephoned to Heath Point, thence by telegraph.

We have nine telegraph stations on the island.

Last April, all the members of our staff having applied for an increase of salary, I am pleased to say that your department considered their application favourably and the salaries were increased from August 1, 1912.

The traffic revenues of our line, not including the month of March as I have yet no returns from the offices for that month, are $2,906.58.

Ellis Bay office shows $2,540.04 of that amount.

I think I can hope for good business at this last named station during the coming season as the pulp plant will be in full operation again.

The whole humbly submitted.

I have the honour to be, sir,
Your obedient servant,

ALF. MALOUIN,
*Dist. Supt.*

## REPORT No. 5.—NORTH SHORE ST. LAWRENCE AND CHICOUTIMI DISTRICTS.

QUEBEC, April 15, 1913.

D. H. KEELEY, Esq.,
General Superintendent Government Telegraph Service,
Ottawa, Ont

DEAR SIR,—I herewith submit my report for the year ending March 31, 1913, and remain,

Your obedient servant,

E. POPE,
*Supt.*

### NORTH SHORE ST. LAWRENCE GENERALLY.

The business of the whole North Shore system, including Chicoutimi district, shows an increase over that of 1911, but is not quite up to that of 1912, which was a record year.

The wires have worked well, and the service generally has been satisfactory.

### NORTH SHORE WEST AND CHICOUTIMI.

*Maintenance.*—The usual regular work has been done by the repairers in their several sections. The extra work in addition was the renewal of the crossing of the Saguenay river between Chicoutimi and Ste. Anne in May; the reconstruction of twenty-five miles of the main line between St. Fidèle and Baie des Rochers in August and September; a general repair of the Chicoutimi-Tadoussac line between Rivière Ste. Marguerite and Lac à Resimond in October; the repair of the camp at Baie Laval in November, and a general overhaul and repair of the bridges between Otis and Anse St. Jean in January.

*New Line.*—A loop of two and a half miles was added to the Chicoutimi-Peribonka circuit to make a connection to St. Louis Nazaire.

*New Office.*—An office was opened at St. Louis Nazaire, in September, D. Blackburn, agent, on commission of 25 per cent guaranteed at $50 per annum.

### CHANGES IN OFFICES AND STAFF.

April, 1912.—R. Dallaire appointed agent at St. Fidèle in place of H. Jos. Desbiens. N. Coulombe, agent at St. Hilarion in place of A. Bergeron. A. Villeneuve, St. Fidéle repairer, in place of A. Brassard, Port au Persil.

May, 1912.—Port au Persil closed on the resignation of Agent D. Bouchard. A. Gauthier appointed repairer at St. Urbain, in place of M. Fortin. L. J. Bouchard, agent, Petite-Riviére St. François, in place of A. Tremblay.

June, 1912.—A. Blais, messenger, Chicoutimi, in place of J. Dubé, promoted to teaching operator.

July, 1912.—Jos. Morin, agent, St. Simeon, in place of J. Tremblay. A. Tremblay, agent, Petite Rivière St. François, in place of L. J. Bouchard, resigned.

August, 1912.—F. Bouchard, agent, Baie des Rochers, in place of Madame D. Savard.

September.—Lac Clair closed on the resignation of Agent A. Dufour.

October.—St. Agnes closed.

November.—Port au Persil re-opened. Thomas MacLaren, agent, on usual commission.

March, 1913.—Alex. Savard, agent, Rivière Ste. Marguerite, in place of Madame Herieux. J. Dubé, operator, Chicoutimi, in place of J. P. Rivard, resigned.

LAVAL TELEPHONE LINE.

An instrument was placed at Mr. Ed. Cauchon's quarry in July, as an accommodation station, at the usual subscription rate, plus the regular tariff on each message.

Complaints of induction interference having been proved to be well founded, a second wire was erected between Beauport and Ste. Therese, a distance of six miles, and this extension of the metallic circuit has made a satisfactory improvement in the transmission of messages.

CHARLESBOURG AND MARTINEAU MILLS.

A telephone line has been constructed between Charlesbourg and Martineau Mills, taking in Stoneham, altogether a distance of nineteen miles, and it will shortly be in operation under an arrangement made by the department with the Bell Telephone Company, with whose system the line will be connected at Charlesbourg, to give a direct service with Quebec.

ESCUMINAC, N.B., AND CHATHAM.

There have been no changes on this circuit since the last report, and the general working conditions have been satisfactory.

## REPORT No. 6.—QUARANTINE LINE.

St. Jean, P.Q., March 31, 1913.

D. H. Keeley, Esq.,
General Superintendent Government Telegraph Service,
Ottawa, Ont.

Dear Sir,—I have the honour to submit my annual report of the working of the quarantine telegraph and telephone system during the year ending March 31, 1913.

In December, 1911, and January, 1912, the Crane Island-Montmagny, Ange Gardien-St. Pierre, St. Francois-Ile aux Reaux, and Grosse Isle-Crane Island cables were broken by ice, and were repaired promptly after the opening of navigation in 1912, as was also the Les Eboulements-Ile aux Coudres cable which was broken by a vessel in 1911. According to your instruction, the Crane Island-Montmagny cable was raised and placed in security for the winter to prevent its destruction by ice, and will be relaid as soon as possible after the opening of navigation.

On December 21, a storm of exceptional violence accompanied with snow and sleet swept the Island of Orleans, prostrating the whole six miles of line from St. Jean to St. Famille. Repairs were completed in fifteen days.

The following transfers were made during the year:—

*Telegraphs—*

April 1.—St. Pierre office from N. Ferland to E. Gendreau.
April 2.—St. Francois Nord office from Pierre Labbe to Jos. Asselin.
April 3.—St. Famille office from P. Letourneau to N. Pichetts.
November 1.—Grosse Isle office from Miss Julia Lagace to A. Dancause.

*Telephone—*

April 3.—St. Francois Nord office from C. Imbreau to F. Lessard.
May 1.—St. Laurent office from A. Turqueon to Laurent Godbout.
May 18.—St. Francois office from Joseph Lapage to Xavier Lepage.

I have the honour to be, sir,
Your obedient servant,

J. P. POULIOT.

## REPORT No. 7.—ONTARIO.

LEAMINGTON, ONT., April 9, 1913.

D. H. KEELEY, Esq.,
General Superintendent Government Telegraph Service,
Ottawa, Ont

DEAR SIR,—In the matter of the Pelee Island Telephone system from March 31, 1912, to March 31, 1913, I beg to report as follows:—

1. The line on the Island is in good working order except near the North Point lighthouse where about twenty poles between the Lake Shore and Marsh will require to be shifted across part of the Marsh to the new dyke east of the present line as they are being washed out by the floods of high water from the lake during gales we have from the west. Some of the poles have been swept away, but I have sufficient on hand at Leamington to replace those that are lost. There will also be a few cedar fence posts required for braces to some poles on the rocky portions of the line where the earth is shallow.

2. The line on the mainland from Leamington office to the cable landing and thence to Point Pelee, is in good working order, but will require a few new poles to replace some that are decayed and unsafe. I have poles on hand to supply what may be required.

3. The cable has worked very well all winter and is still working satisfactorily.

4. If the system on the Island was made metallic with fewer instruments on the main line, I am satisfied the service could be much improved.

I herewith submit a list of the offices and operators or agents, with summary of messages from March 31, 1912, to March 31, 1913.

Yours most respectfully,

JOHN McR. SELKIRK,
*Dist. Supt.*

## REPORT No. 8.—NORTHWEST LINES.

EDMONTON, ALBERTA, April 15, 1913

D. H. KEELEY, Esq.,
General Superintendent Government Telegraph Service,
Ottawa, Ont.

DEAR SIR,—I beg herewith to submit my annual report on the Northwest lines, covering conditions, repairs, construction and changes of staff up to March 31, 1913.

### CONDITIONS GENERALLY.

During the past year, interruptions were infrequent, the lines as a whole being kept in good working order. The sections between Athabaska Landing and Sawbridge have given the most trouble. The sections are heavily timbered and fierce fires having swept through the whole district while killing the trees left many of them standing but in weakened condition so that whenever a strong wind occurs many trees are blown over the wire. An apropriation was made for the re-poling of the Moosejaw-Wood Mountain division, and the work has been completed. This line is now in good order. Considerable work was also done in shifting the line to the highway between Qu'Appelle and Edmonton, but there is still a large amount to be done to remove the line from the fields to the roadway. Requests to this effect are being received from all points on the line. Several new lines have been constructed during the year, details of which follow, and seventeen new offices opened. Owing to the continually increasing business in my office I have been unable to make a complete trip of inspection during the past three years. Our lines now cover 1,860½ miles and an inspection trip would necessarily take up considerable time.

## CONSTRUCTIONS.

### PEACE RIVER-GRAND PRAIRIE LINE.

During the year the line was completed from Dunvegan to Lake Saskatoon, a distance of 76 miles, and a loop constructed from a point on this line to Grand Prairie City, eight miles, a total pole distance of 84 miles and wire distance of 92 miles, at a cost of $9,121.72. Offices were opened at Spirit River, Grand Prairie City and Lake Saskatoon.

### ST. PAUL DE METIS-DURLINGVILLE LINE.

This line was carried to completion from St. Paul de Metis to Durlingville, a distance of 48 miles, at an expenditure of $2,887.55. An office was opened at Rife midway between these points with a lineman-operator in charge. An office was also opened at Durlingville.

### BATTLEFORD-ISLE LA CROSSE LINE.

Construction work was begun on this line in 1911-12, but no offices were established. During 1912-1913, the line was constructed to Green Lake, a distance of 185 miles from Battleford and offices opened at North Battleford, 4 miles; Meota, 35 miles; Gleslyn, 75 miles; Meadow Lake, 141 miles; Green Lake, 185 miles; distances computed from Battleford. There is now on hand sufficient material to carry this

line a further distance of 65 miles. The work was discontinued owing to the extremely wet season and the fact that no road has been surveyed. A road from Green Lake to Isle La Crosse is now under construction north of Green Lake. The expenditure on this line for the year was $6,093.66.

MOOSEJAW-WOOD MOUNTAIN LINE.

The work of repoling above line was carried to completion from a point 60 miles from Moosejaw to Willow Bunch, a distance of 86 miles. This line is now in first-class condition. The cost of this work was $9,192.34.

LEEVILLE LOOP LINE.

A line was constructed from a point on the Moosejaw-Wood Mountain line near Limerick to Leeville, a distance of 16 miles, at an expenditure of $3,190.97. An office was opened at Leeville and afterwards removed to Assiniboia, a distance of 14 miles from the main line. Assiniboia is on the proposed route of a Canadian Pacific railway branch line and when that townsite was put on the market all the business places of Leeville moved to Assiniboia.

GROUARD-HIGH PRAIRIE TELEPHONE LINE.

An appropriation was made for a telephone line from Grouard to High Prairie River, a distance of 35 miles. The settlers in that district supplied and delivered the poles for this line without cost to us. The line was constructed for a distance of 25 miles, when owing to the non-arrival of a part of the materials, work had to cease. Telephones were installed at B.A.See's, 3 miles; Travers Bros, sawmill, 12 miles; Martin Ouilette, 16 miles; D. S. Hayden's, 20 miles; Mr. McQue, High Prairie P. O., 25 miles, distances computed from Grouard. These telephones were installed at a rental of $15 per annum to parties named, and on condition that they may be used by the public to reach our Grouard office, for which a charge of 10 cents will be made. The expenditure on this line amounts to $3,053.16.

SHIFTING LINES GENERALLY.

*Qu'Appelle-Edmonton section.*—An appropriation was voted for the purpose of shifting the line from the fields to the highway. Owing to the scarcity of competent men only a part of the work laid out for the season was completed. Some 19 miles in the more important places were removed. In addition to the work done we have purchased and have on hand 1,100 poles and 4,500 sideblocks for the carrying on of this work. The total expenditure for the year was $4,753.94.

BUILDINGS.

*Grouard.*—An office-dwelling at Grouard for which a part of the material was purchased in 1911-12, was erected at an expenditure of $1,490.80. The building is now being used for the purpose above named, but a further appropriation of $600 has been asked for to complete it.

*Sawridge.*—An appropriation was voted by the Government for an office-dwelling at Sawridge, but it was found impossible to secure the necessary lumber. Some material has been placed on the ground and a stable erected at a cost of $465.95.

*Dunvegan.*—An appropriation was made for an office-dwelling at Dunvegan, but owing to the scarcity of lumber in the north, it was found impossible to do more than give orders for the lumber required, to the mill. This was to have been cut and delivered this spring. Some windows and doors were shipped from Edmonton at a cost of $37.65.

ADDITIONS AND CHANGES IN STAFF.

*Saskatoon.*—J. H. Murphy, agent, replacing C. Webster, transferred to Battleford as assistant agent; new appointment.

*Battleford.*—C. Webster, assistant to Agent Noel.

*Battleford.*—E. Bidart, messenger, replacing H. Gibson, resigned.

*Lloydminster.*—S. De Coste, agent, replacing A. Botwell, transferred to Mooswa.

*Mooswa.*—A. Botwell sub-agent, replacing J. A. McCartney, resigned.

*Saddle Lake.*—C. B. Ingraham, sub-agent, replacing J. W. Carroll, resigned.

*Lamont.*—B. DeMarch, agent, replacing J. M. Royer, resigned.

*Fort Saskatchewan.*—J. W. Shera, agent, replacing A. W. M. Campbell, resigned.

*Edmonton.*—O. St. John, assistant agent, new appointment; A. W. Cass, lineman, replacing J. H. Young, resigned; W. Wilson, messenger, replacing A. Duplessis, resigned; C. McGraw, extra messenger, new appointment.

*Athabaska Landing.*—E. J. King, agent, replacing Jas. McKernan, resigned.

*Athabaska Landing.*—A. Parry, lineman, replacing J. Minns, resigned.

*Mirror Landing.*—J. M. Royer, agent, replacing J. A. Jacques, resigned.

*Mirror Landing.*—H. Hautebergue, lineman, new appointment.

*Grouard.*—R. M. Osborn, agent, replacing V. P. MacLeod, resigned.

*Peace River.*—F. Anderson, lineman, replacing C. Banford, resigned.

*Dunvegan.*—A. Vaillancourt, replacing H. Coleman, transferred to Lake Saskatoon.

*Spirit River.*—W. R. Holden, agent, new office.

*Grand Prairie City.*—J. H. Byrne, agent, new office.

*Lake Saskatoon.*—G. Coleman, agent, new office.

*Fairview.*—H. L. Prepst, agent, new office on commission basis.

*Expanse.*—G. T. Brown, agent, replacing A. S. Macdonald, resigned.

*Limerick.*—Murtle Cresson, agent, replacing E. R. Lossing, resigned.

*Assiniboia.*—A. Hodgson, agent, new office.

NEW OFFICES

Assiniboia, Sask., loop off Moosejaw-Wood Mountain line.

*North from Battleford—*

North Battleford, Sask.
Meota, Sask.
Glaslyn, Sask.
Green Lake, Sask.
Meadow Lake, Sask.

*North from St. Paul de Metis—*

Rife, Alta.
Durlingville, Alta.

*Peace River District—*

Fairview, Alta.
Spirit River, Alta.
Grand Prairie City.
Lake Saskatoon.

NEW OFFICES ON TELEPHONE LINE.

*From Grouard—*

See.
Travers.
Ouilette.
Hayden.
McQue.

ATHABASKA LANDING—FORT McMURRAY.

An appropriation was voted for a telegraph line from Athabaska Landing to Fort McMurray and Mr. F. D. Currier was appointed to take charge of the work. There has been 70 miles of right-of-way cleared from Athabaska Landing to a point known as Duncans Creek. Poles have been purchased for this distance and 52,086 lbs. wire, 8,000 insulators and 3,000 sideblocks have been delivered at a cost of $18,111.61.

SUMMARY.

| | |
|---|---|
| Salaries, April, 1912-March 31, 1913 | $44,734 15 |
| Rents, April, 1912-March 31, 1913 | 5,084 00 |
| Coal and wood, April, 1912-March 31, 1913 | 1,842 51 |
| Coal oil and electric light, April, 1912-March 31, 1913 | 272 40 |
| Postage, April, 1912-March 31, 1913 | 105 94 |
| Horse and feed, April, 1912-March 31, 1913 | 4,469 76 |
| Horse hire, April, 1912-March 31, 1913 | 354 35 |
| Repairing line, April, 1912-March 31, 1913 | 368 70 |
| Sundries, April, 1912-March 31, 1913 | 5,419 40 |
| Blacksmithing, April, 1912-March 31, 1913 | 332 65 |
| Wagons and sleighs, April, 1912-March 31, 1913 | 789 55 |
| Horses, April, 1912-March 31, 1913 | 2,160 00 |
| | $65,933 41 |

NEW OFFICES.

North Battleford, Sask., F. J. Colmer, agent.
Meota, Sask., O. A. Tenny, agent.
Glaslyn, Sask., A. McCartney, operator-lineman.
Meadow Lake, Sask., J. R. McCordie, operator-lineman.
Green Lake, Sask., R. White, operator-lineman.
Rife, Alta., B. O. Boyd, operator-lineman.
Durlingville, Alta., L. T. McCleod, agent.

The revenue for the year 1912-13 has increased $8,843.41, or about 43 per cent over the previous fiscal year.

I have the honour to be, sir,
Your obedient servant,

ROBT. C. McDONALD,
*Dist. Supt.*

## REPORT No. 9.—NORTHWEST LINES.

EDMONTON, ALTA., March 31, 1913.

D. H. KEELEY, Esq.,
General Superintendent Government Telegraph Service,
Ottawa, Ont.

DEAR SIR,—I beg to submit herewith a report covering the lines in my inspectorate during the fiscal year ending March 31, 1913.

### QU'APPELLE-EDMONTON SECTION.

Few interruptions have occurred on this section during the past year, with the result that there has been no serious delay to business at any time. The policy of removing the original poles from the farms has been continued and, as this district is now practically all taken up for farming purposes, it will be necessary to continue the work each season until all lines are placed upon the highways. In doing this work the length of the line is necessarily increased, as it will run at right angles instead of in a direct line as originally constructed.

A number of changes occurred in the staff during the year, chiefly at Saskatoon and Edmonton, where the various agents and operators engaged declined to remain for the salary paid. While the increased cost of living is felt everywhere, it is especially so in the cities owing to the high rentals, this condition being due to the fact the people are coming in faster than houses can be built to accommodate them.

### BUILDINGS AND REPAIRS.

No buildings were erected or repairs made to our present buildings during the past year. An appropriation of $5,500 was asked for to construct a new office-dwelling at Battleford. Also appropriations to make necessary repairs to our buildings at Willow Bunch, South Humboldt and Onion Lake. Minor repairs will be required at some of our other buildings, but none requiring a large expenditure.

### EDMONTON-LAKE SASKATOON SECTION.

The working of this line during the past year has been most satisfactory. There have been few delays, while the volume of business has steadily increased. The great bulk of the business is done with Edmonton office, Edmonton being the commercial centre for the country to the north. It was found necessary to engage an operator to assist the agent at this point, the increase of business being sufficient to keep both constantly employed. Probably no line built by the department has proved such a valuable factor in opening and developing the country, while owing to the great distances and the absence of mail facilities, it is invaluable for business requirements. During the year, the line was extended from Dunvegan to Lake Saskatoon, a distance of 84 miles, new offices being opened at Spirit River, Grand Prairie City and Lake Saskatoon.

### BUILDINGS.

An office-dwelling has been completed at Grouard. Appropriations were made for the erection of similar buildings at Dunvegan and Sawridge, but owing to the

rapid development of the northern district, it has been found impossible, to date, to secure the necessary quantity of lumber. At Sawridge a portion of the lumber and all other material are on the ground. It is expected that the balance of the lumber required will be delivered shortly. A stable has been built at this point. At Dunvegan, lumber is promised at an early date.

MOOSEJAW-WOOD MOUNTAIN SECTION.

During the year, the work of removing the line to the highway was completed, this line being now in excellent condition from Moosejaw to Willow Bunch. A new office was opened at Leeville, but later transferred to Assiniboia, some three miles distant.

BUILDING REPAIRS.

Our building at Willow Bunch is badly in need of repairs. An appropriation has been asked for this purpose, and the necessary work will be done immediately it becomes available.

BATTLEFORD-ISLE LA CROSSE.

This line has been completed to Green Lake, a distance of 185 miles north of Battleford. Owing to the muskeg character of the country north of Green Lake, and the fact that a new road was projected by the Provincial Government, it was not considered advisable to build beyond that point last season. This road is now under construction, and the balance of the line to Isle La Crosse will be built alongside if the necessary funds are available this year.

BUILDINGS.

Appropriations have been asked for the construction of buildings at Midnight Lake (Glaslyn), Meadow Lake, and Green Lake, at a cost of $2,000 each. These are necessary, there being no suitable accommodation to be had for our agents. The district, while suitable for farming and ranching, is not filling up in any way approaching the measure of the Peace River country. To the individual settler the line is of great value, but there is little probability that it will become a source of revenue in anything approaching the same degree as the Peace River line.

ST. PAUL-DURLINGVILLE.

This line, 48 miles, is now completed, with offices at Durlingville, Rife and St. Paul. An extension to Cold Lake—22 miles—would increase its usefulness.

ATHABASKA-FORT MCMURRAY.

A route for this line has been mapped out by Mr. E. D. Currier, who with a party of men has been for some months clearing a right-of-way. This has been completed to a point 70 miles north of Athabaska. Poles for this portion of the line have been contracted for and are being delivered.

NAKUSP-EDGEWOOD TELEPHONE.

Acting under instructions from the Department, I went to Nakusp, B. C., to arrange for the building of this line. Upon examining into the matter I advised that the work should be done by contract and this was accordingly done, the tender of Mr. Thos. Aubrey being accepted. Some delay was experienced owing to the non-arrival of material, but the line is now in operation and working satisfactorily. This line

is a very great convenience to settlers along the line, particularly in the winter season, when, should the lake freeze over, they are cut off from all communication with the outside.

KAMLOOPS-OKANAGAN.

Accompanied by Superintendent Palmer, I went over considerable part of his territory. The volume of business grows steadily, and with the increasing mileage and additional offices his work is growing all the time. The completion of the telegraph line from Penticton and Vernon, has greatly aided business by relieving the tension on the telephone wire. At Keremeos, Princeton and Merritt there were demands for increased facilities, which must be met if the business is to be taken care of. I found that many of the poles between Vernon and Kelowna, re-set in 1910, were in such bad condition that new poles will be required shortly on this section.

Requests were being received for extensions of the lines in all directions. In the Prairie provinces the telephone systems are controlled by the various local Governments, but this is not true of British Columbia, and it would appear that the Dominion Government will be called upon to establish telephone communication with outlying districts, as they are settled up.

From the Okanagan, I proceeded to Victoria, and discussed telegraph matters with Superintendent Henderson and Mr. Brown, but as urgent matters connected with the Public Works agency compelled an immediate return to Edmonton, I did not find time to make a trip of inspection on this division.

At the time of my visit all wires were working well, and construction proceeding satisfactorily on the various lines.

I have the honour to be, sir,
Your obedient servant,

J. S. MACDONALD,
*General Inspector.*

## REPORT No. 10.—BRITISH COLUMBIA.

VICTORIA, B.C., April 23, 1913.

D. H. KEELEY, Esq.,
General Superintendent Government Telegraph Service,
Ottawa, Ont.

DEAR SIR,—I have the honour to submit the annual report upon the telegraph and telephone lines under my charge for the year ending March 31, 1913.

VANCOUVER ISLAND LINES.

The lines embraced under this heading are as follows: Victoria and Cape Beale (including Victoria-Jordon River telephone circuit); Banfield-Alberni telegraph line; Alberni-Clayoquot telegraph line; Nanaimo-Comox-Campbell River line (including line to Alberni, Denman and Hornby Islands telephone line from Union Bay); (Cape Lazo branch from Comox); Campbell River-Powell River-Texada Island line; extension Powell River to Vancouver: Nanaimo and Gabriola telephone line from Nanaimo.

VICTORIA-BANFIELD SECTION.

The improvement noted in last year's report in the working of this section has not only been maintained, but increased. During the year several small portions of the line have been rebuilt, others have been partially so, and the whole section has been brought to a better condition than in any former year of its history, and continuous service has been given over the telegraph line, except during severe storms in December and January, when the damage, while, owing to these disturbances, being the heaviest in recent years, was quickly repaired and service restored. During the year arrangements were made with the British Columbia Telephone Company to give us the use of one pair of their wires in one of their city cables, to make connection to our Victoria office with our Victoria-Jordan River telephone circuit, it being found that the route followed through Victoria West was, for the first three miles, unsuitable owing to frequent interruptions to the wires, and also to the cables crossing the harbour. This change necessitated the stringing of our telephone circuit for a distance of about three miles, and was found to give every satisfaction until a heavy electric storm on December 18 last destroyed the apparatus necessary to protect the cables of the British Columbia Telephone Company. Owing to the largely increased protection (transformers) required by the provincial electrical inspector, and the length of time necessary to secure this protection from the east, this circuit has not yet been restored, but it is expected that this will occur very shortly. Interruptions to the line between Victoria and Sooke Harbour have also occurred during the summer and autumn, through the operations of the contractors for the Victoria city waterworks, and the Canadian Pacific Railway, whose pipe line and railway grade respectively follow the road on which our wires run, for some miles. These interruptions were, in a great measure, unavoidable but in the majority of cases, our line repairer was notified of the likelihood of blasts and felling of trees, causing trouble, so the time of the interference was generally very short.

The changes in the location of the line in 1911, particularly near Port Renfrew, where it was changed from the north side of the mountain there to the south side, have proved very beneficial, considerably less snow having been encountered this year by the line repairer, compared with former years. As the new trail being built by the Department of Marine and Fisheries has been extended to Carmanah during the past year, it was possible to move the location of the line to this trail and that has been done, consequently repairs are effected with greater expedition than was formerly possible, although the trail being put through virgin timber and thus making an opening into the forest for the heavy gales along the west coast, has increased the number of falling trees and this is likely to continue for some time to come.

BANFIELD-ALBERNI SECTION.

The transferring of most of this section to the water's edge and supplying of line repairers with motor launches in 1911-12 has made it possible to keep this line up better and restore communication in case of interruptions in shorter time than was possible in former years. Owing to construction operations by the Canadian Northern Pacific Railway contractors between Coleman Creek and Port Alberni, considerable trouble has been experienced, but the railway company has supplied an extra lineman, paid by it, to be under our jurisdiction and it is thought that fewer interruptions and of a shorter duration will be encountered. Between Port Alberni and Alberni the line followed an old road which has been abandoned, and new roads opened, and this coupled with the fact that the poles on the old route were unfit for further use, made it necessary to rebuild this stretch of line, putting in new poles the entire distance, about two miles.

ALBERNI-CLAYOQUOT SECTION.

Considerable work has been done on this section during the past year, both in completing the projected improvements to the trails and transferring the wire to the water's edge where possible, and aside from the great damage done by storms in December and January interruptions have been less frequent than in former years. A telegraph office has been opened at Clayoquot, Stubbs Island, with a salaried agent-operator in charge, instead of a private office as formerly. Owing to the rough nature of the country on the Alberni canal, this section will always be a difficult one to maintain.

NANAIMO-COMOX-CAMPBELL RIVER SECTION.

Considerable re-construction has taken place on this section during the past year, owing to the Canadian Pacific Railway extending its rails up the east coast of Vancouver Island, and in doing so, have taken the old road as part of their grade in several places. In addition about twelve miles of line has been rebuilt on the main road between Union Bay and Cumberland, great difficulty being found in repairing the line which was on the railway company's poles. It is expected that a great many more changes will be found necessary between Parksville and Campbell River during the coming year, on account of the continuation of railway building operations and change of roads by the Provincial Government, which will cause trouble and interruptions, but with proper care this, it is hoped, will be considerably minimized.

UNION BAY-DENMAN AND HORNBY ISLAND SECTION.

During the past year an extension of this telephone line was built to Mr. J. Howes' residence to give service to settlers in that neighbourhood. This line has had but few interruptions this year, and gives general satisfaction to its patrons.

COMOX-CAPE LAZO SECTION.

This portion of the line gives connection to the wireless station at Cape Lazo, but is not yet productive of much revenue.

NANAIMO-GABRIOLA ISLAND LINE.

This section of the line has given very satisfactory service to the settlers and industries on the Island and but few interruptions have occurred this year.

CAMPBELL RIVER-POWELL RIVER- TEXADA ISLAND SECTION.

Outside of damage caused by the severe general storms of December and January, very few interruptions have occurred, and the whole section is in good condition. A defect in one splice of the cable when it was laid between Mary and Cortez Island, developed and caused one serious interruption, cutting off communication with Powell River and Lund for ten days. Mr. Porter, the line foreman, was hurried to this point to make repairs, but while over-running the cable to ascertain the trouble, one of the splices that was in the cable when it was sent here, gave way and he had to return for tug and scow to make a new splice, which left this portion of the line out of business for ten days. It was found necessary, when effecting these repairs, to cut out a piece and replace it with a sound piece which was on hand.

POWELL RIVER-VANCOUVER SECTION.

The land line portions of this extension have all been built for some time and only await the arrival of cable for the several stretches of water in order to be put in position.

SALT SPRING ISLAND LINE.

Considerable satisfaction is expressed by the public at the Department having its own agent at Duncans, and very effective service is now maintained for this reason, added to which the line itself is in good condition all through, having been overhauled by line foreman Porter and temporary repairs made by local linemen as the necessity arose. The cable to Galino Island was relaid and communication restored to the great convenience of the inhabitants.

GOLDEN AND WINDERMERE LINE.

Constant demand for additional telephone connections shows that good service is given and maintained, but the line itself is now carrying its full capacity.

SIDNEY AND SIDNEY ISLAND LINE.

This line continues to give effective service, no interruptions having occurred during the past year.

VICTORIA-METCHOSIN LINE.

Operated and maintained by the British Columbia Telephone Company.

CHEMAINUS-KUPER-THETIS ISLAND LINE.

The cable giving connection to these Islands was laid this year and the inhabitants are well pleased with the means of communication thus afforded. The line is in first-class condition.

MALAHANT-SAANICH INLET LINE.

A cable has been laid across the Saanich Inlet and connection given to the large cement works at Bamberton works with Victoria through a telephone line built by the British Columbia Telephone Company which connects with the cable laid by the Department. The same arrangements as to traffic prevails as in connection with the Sidney-Sidney Island line; a tariff of 10 cents for two minutes' conversation over our portion of the line, to which is added the British Columbia Telephone Company's tolls, the cement company acting as our agents.

I have the honour to be, sir,
Your obedient servant,

WM. HENDERSON,
*District Superintendent Government Telegraphs.*

## REPORT No. 11.—KAMLOOPS, PENTICTON.

KAMLOOPS, B.C., March 31, 1913.

D. H. KEELEY, Esq.,
General Superintendent Government Telegraph Service,
Ottawa, Ont.

DEAR SIR,—In presenting to you my annual report 1912-13, I beg to refer you to the various items of construction and repair work performed, and then to the conditions and needs of the several sections of the district. Starting May, 1912, the line between Nicola and Lower Nicola, 14 miles, was straightened to conform with the

changes in the highway and re-poled. From Nicola south toward Princeton, where the old road has been closed and abandoned, 10 miles of new construction was completed, over what is known as Hamilton Hill. Three miles of line was also put up south of Princeton to give service to a large cement plant which is being located there, and promises to develop considerable business.

At Penticton, some five miles of new line was built from the Fairview road across the Indian Reserve on the west side of the Okanagan Lake, and to connect with the line of Summerland, also a spur across the river to Penticton, near the east end of the town. This removes, very largely, the induction and cross-talk from local wires which made the long distance service most unsatisfactory, it also complied with the request of the municipality to remove our poles from the park drive at the lake front.

At Okanagan Landing a spur of 2½ miles was built to give connection with our trunk line to the Canadian Pacific Railway depot and thus facilitate the handling of freight for the valley towns. In the autumn, two gangs were dispatched from Hamilton Hill near Nicola, and Penticton to reset all poles requiring and making general repairs to the whole line, a distance of 171 miles. This work was completed near Hedley about November 30, and exhausted the revote of $4,700 for Okanagan Valley construction.

In accord with the appropriation authorized, the Lower Nicola line was extended to Canford Mills, a distance of eight miles. This line is now operated from the Merritt exchange on a flat rate basis.

Owing to the railway construction on the Thompson river, and where the right-of-way follows the original carriage road for much of the distance, a great deal of temporary work was made necessary during the working season to keep the line in commission or to remove it to safe quarters until the new roadway is completed. During navigation, the Northern Construction Company's supply boat, due partly to size, and partly to extreme high water, made very difficult the upkeep of the crossings at Chinook Cove and Chu Chua. This trouble will shortly be obviated by the laying of the cables at these points—the remnants left from the cables recently placed at Kelowna being sufficient for this purpose.

All work on the North River was provided for under maintenance.

Perhaps our best achievement was the completion of the copper metallic circuit between Kelowna and Penticton, thus relieving the old grounded line, for the exclusive use of the telegraph. This work involved eleven miles of new construction between Summerland and Peachland, the resetting of practically all the old poles over the remaining distance between Westbank and Penticton, and the placing of cross arms on all poles. Two single core sub-marine cables were laid between Kelowna and Westbank to carry the metallic circuit.

On the Kamloops-Savona line, owing to the long distance and the heavy hauling the cost of poles and the staking of the line used practically all the appropriation so that there was no money to put up the line. At present the poles are on the ground, and all ready for digging and setting whenever the new appropriation shall be authorized.

Of the conditions on the old line, perhaps those between Vernon and Kelowna are the most favourable. The late superintendent reset the poles on this line in 1910, furnishing them with cross arms to carry the copper line. An experiment was made on this section in treating old butts with carbolinium, and which I believe was a pronounced failure. The old poles thus treated have gone to pieces far more quickly than others that were reset without the carbolinium treatment. The line between Aspen Grove and Penticton is also practically worn out and must soon be entirely rebuilt.

During the year, a new piece of line was added to the Kamloops-Okanagan district covering the section along the Arrow Lakes between Nakusp and Edgewood, a

distance of 50 miles. This line connects up seven offices, and was opened for business December 1. The construction work was done by contract and was carried on under the direction of the General Inspector, Mr. J. S. McDonald.

Our rural lines, though not as productive as in the larger settlements, are in increasing demand, and the new settlers are asking for extensions both in construction and in service.

All of which is respectfully submitted.

L. A. PALMER,
*District Superintendent.*

## REPORT No. 12.—YUKON.

VANCOUVER, B.C., June 13, 1913.

D. H. KEELEY, Esq.,
General Superintendent Government Telegraph Service,
Ottawa, Ont.

DEAR SIR,—I beg to submit herewith my annual report covering the operation of Northern British Columbia and Yukon lines, during the fiscal year, 1912-13.

### MAIN LINE ASHCROFT TO INTERNATIONAL BOUNDARY.

Very little difficulty was experienced in maintaining circuit on the main line during the past season. We had the usual trouble from bush fires, during the dry season, but interruptions were of short duration.

The line was taxed to its utmost capacity—night staffs being necessary at relay and repeater points. The inauguration of the night letter service contributed to a great extent in increasing the work, as this service is very popular with the public, and is taken full advantage of wherever possible.

The line along the Cariboo wagon road was reconstructed between Clinton and Sixty two Mile House, and between One Hundred and Fifteen Mile House, and One Hundred and Thirtyfour Mile House. This gang under Line Foreman J. A. House, was transferred to the construction of the Bella Coola line from One Hundred and Fifty Mile House.

A repair gang under Foreman W. Blackstock repoled and reset the section between Moricetown and South Bulkley.

In the Yukon district, Line Foreman Couture with a small gang, completed general repairs between Yukon Crossing and Forty Mile, and another gang under Foreman Lokken overhauled and repaired section between Yukon Crossing and Atlin.

### HAZELTON-PRINCE RUPERT BRANCH.

The operation of this line during the year was very satisfactory. During June and July forest fires caused several interruptions and destroyed portions of the line, but repairs were effected without serious delay.

The decrease in revenue is mainly due to the completion of railroad construction in that section, and the contractor's camps being removed to the Bulkley Valley. The revenue at offices in that section shows a corresponding increase.

ASHCROFT-LILLOOET BRANCH.

With the advent of railway construction at Lillooet the business on this line shows a substantial increase over last year.

A small repair gang was sent over the line early in the season and the line placed in good order.

A requisition for a telephone line from Lillooet to Lytton has been sent to the Department, and if the work is approved, this line, besides serving intermediate points en route, provides another outlet for business from Lillooet to the Canadian Pacific Railway line.

LILLOOET-PIONEER MINES CONSTRUCTION.

Construction work on this line was commenced July 19, and completed November 4 by a gang under Foreman Burkholder. The line is seventy-five miles in length, and used exclusively for telephone purposes—'phones being installed at Dunlops, Seaton Lake, Mission Landing, Fairhaven, Tyanghton and Coronation Mines. Shortly after its completion the Pacific and Great Western Railway engineers in locating along the shore of Seaton Lake, ran their permanent line along our right of way in several places. This necessitated moving our line, but by agreement, this was undertaken by the railway contractors without expense to us. When construction work commenced 'phones were placed in two headquarters, and three sub-contractors camps, at a rental of $25 per month for the headquarters, and $15 per month for the sub-contractors. A leg was also run from this line to a point midway on the portage between Seaton and Anderson Lake, and a 'phone installed at a roadhouse, for the accommodation of travellers, and the doctor in charge of railway medical work.

BELLA COOLA-150-MILE HOUSE LINE CONSTRUCTION—329 MILES.

Work on the construction of this line was commenced on May 7 from Bella Coola by a crew under Line Foreman J. A. Thorne. This gang completed the line to Hanceville, 256 miles, on October 5.

The section between Hanceville and 150-Mile House, 73 miles, was constructed by a crew from 150-Mile House, under Line Foreman J. A. House. They commenced the work August 1, completing and making final connection on November 30. This line is operated as a composite telegraph and telephone, with telegraph offices at 150-Mile House, Kluna Kluna, and Bella Coola, and telephone office at Williams Lake, Onward Ranch, Bechers, Hanceville, Lees, Alexis Creek, Baylifts, Chilanco Forks, Tatla Lake, Moshers and Canoe Crossing.

FRASER LAKE-STUART LAKE TELEPHONE LINE CONSTRUCTION—42 MILES.

Construction of this line was commenced August 15, by a crew under Foreman H. Worthington, and the line completed October 12—telephones being installed at Stuart Lake and Fraser Lake—later the telegraph office at Fraser Lake was removed three miles east to Fort Fraser, the new townsite on the Grand Trunk Pacific Railway—this telephone line also being extended to Fort Fraser, leaving Fraser Lake, Stuart Lake and Fort Fraser with telephone connection on this line.

HORSEFLY BRANCH.

Very little repair work was done on this line, during the past year, and as the poles are decaying fast, it will be necessary to completely repole it in the near future.

BARKERVILLE BRANCH.

This line is in good order, having been thoroughly overhauled and repoled in part, during the past summer.

STEWART BRANCH-KITSUMKALUM TO STEWART.

Considerable difficulty was experienced in maintaining connection with Stewart, during December and January, owing to interruptions, from snow slides along Portland canal, and from falling timber, which becomes weighted down with heavy wet snow at points along the coast.

With our launches at Stewart and Goose Bay, the men were enabled to reach the scene of trouble, with little delay, and repairs were quickly made. Business has increased at Goose Bay, where the Granby Mining Company are erecting a smelter, employing a great many men.

Under separate cover, I have mailed you a comparative statement, showing in detail the business done at each office, on the system, during the past year—the whole showing a substantial increase in revenue, and a heavy increase in messages.

Yours very truly,

J. T. PHELAN,
*Superintendent.*

# YUKON TELEGRAPHS.

## ASHCROFT-DAWSON, MAIN LINE.

COMPARATIVE Statement of Revenue, for the Years ending March 31, 1912, and March 31, 1913.

| Offices. | Fiscal Year, 1911-1912. | | | Fiscal Year, 1912-1913. | | | Summary. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Messages. | | Revenue. | Messages. | | Revenue. | Messages. | | | | Revenue. | |
| | | | | | | | Increase. | | Decrease. | | Increase. | Decrease. |
| | Sent. | Rec'd. | $ cts. | Sent. | Rec'd. | $ cts. | Sent. | Rec'd. | Sent. | Rec'd. | $ cts. | $ cts. |
| Ashcroft, B.C. | 27,427 | 33,376 | 27,570 69 | 31,819 | 39,821 | 32,001 95 | 4,392 | 6,445 | | | 4,431 26 | |
| Aldermere, B.C. | 1,116 | 1,043 | 1,278 97 | 1,477 | 1,173 | 1,349 76 | 361 | 130 | | | 70 79 | |
| Ander, B.C. | 145 | 90 | 58 29 | 175 | 124 | 67 66 | 30 | 34 | | | 9 37 | |
| Atlin, B.C. | 681 | 522 | 1,672 61 | 815 | 593 | 1,899 88 | 134 | 71 | | | 227 27 | |
| Big Salmon, Y.T. | 5 | 8 | 7 00 | 28 | 20 | 57 14 | 23 | 21 | | | 50 14 | |
| Blackwater, B.C. | 2,658 | 2,322 | 951 97 | 4,512 | 3,949 | 1,975 61 | 1,854 | 1,627 | | | 1,023 64 | |
| Bobtail Lake, B.C. | 75 | 34 | 60 16 | 65 | 38 | 53 21 | | | 4 | 10 | | 6 95 |
| Boundary, Y.T. | 1,405 | 1,300 | | 2,153 | 1,899 | | 748 | 599 | | | | |
| Burns' Lake, B.C. | 150 | 117 | 171 38 | 510 | 393 | 468 97 | 360 | 276 | | | 297 59 | |
| Carcross, Y.T. | 527 | 434 | 1,306 01 | 507 | 450 | 1,129 78 | | | 16 | 20 | | 176 23 |
| Carmacks, Y.T. | | | | 15 | 13 | 26 05 | 15 | 13 | | | 26 05 | |
| Clinton, B.C. | 1,664 | 1,496 | 783 78 | 2,067 | 1,769 | 1,086 61 | 403 | 273 | | | 302 83 | |
| Coffee Creek, Y.T. | 78 | 40 | 66 47 | 52 | 45 | 22 65 | | | 5 | 26 | | 43 82 |
| Dawson, Y.T. | 5,416 | 5,095 | 28,565 77 | 5,801 | 5,170 | 28,284 62 | 385 | 75 | | | | 281 15 |
| Dougherty's, B.C. | 54 | 48 | 8 75 | 97 | 92 | 29 07 | 63 | 44 | | | 20 32 | |
| Echo Lake, B.C. | 3 | 0 | 5 42 | 6 | 2 | 10 96 | 3 | 2 | | | 5 54 | |
| Eight Cabin, B.C. | 6 | 2 | 17 69 | 14 | 6 | 28 29 | 8 | 4 | | | 10 51 | |
| Fifth Cabin, B.C. | 62 | 29 | 177 14 | 97 | 123 | 98 18 | 35 | 94 | | | | 78 96 |
| First Cabin, B.C. | | | | 13 | 4 | 8 69 | 13 | 4 | | | 8 69 | |
| Fort Fraser, B.C. | | | | 288 | 237 | 236 82 | 288 | 237 | | | 236 82 | |
| Fort Selkirk, Y.T. | 141 | 138 | 195 12 | 216 | 178 | 221 58 | 75 | 40 | | | 26 46 | |
| Forty Mile, Y.T. | 334 | 215 | 407 42 | 292 | 218 | 400 26 | 3 | | 42 | | | 7 16 |
| Fourth Cabin, B.C. | 31 | 25 | 27 56 | 42 | 41 | 31 52 | 11 | 16 | | | 3 96 | |
| *Fraser Lake, B.C. | 329 | 346 | 358 42 | 981 | 786 | 853 50 | 652 | 440 | | | 495 08 | |
| Govt. Ranch, B.C. | | | | 280 | 188 | 302 40 | 280 | 188 | | | 302 40 | |
| Hat Creek, B.C. | | | | 3 | | 1 00 | 3 | | | | 1 00 | |
| Hazelton, B.C. | 8,231 | 8,263 | 11,898 93 | 5,826 | 5,404 | 7,081 24 | | | 2,405 | 2,859 | | 4,817 69 |
| Hootalinqua, Y.T. | 64 | 51 | 51 15 | 78 | 58 | 76 20 | 14 | 7 | | | 25 05 | |
| Iskoot, B.C. | 4 | 6 | 9 92 | 2 | 2 | | | | 2 | 4 | | 9 92 |
| Kispiox, B.C. | 57 | 60 | 34 08 | 65 | 86 | 43 76 | 8 | 26 | | | 9 68 | |
| Lower Laberge, Y.T. | 176 | 130 | 191 33 | 149 | 122 | 211 31 | | | 27 | 8 | 19 98 | |
| Lynes, B.C. | 120 | 92 | 45 49 | 123 | 101 | 48 50 | 3 | 9 | | | 3 01 | |

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Moffat's, B.C. | 78 | 56 | 32 11 | 50 | 38 | 17 64 | | | 28 | 18 | | 14 47 |
| Moricetown, B.C. | 98 | 67 | 87 81 | 159 | 69 | 128 03 | 61 | 2 | | | 40 22 | |
| Nablin, B.C. | 15 | 8 | 17 32 | 18 | 6 | 6 73 | 3 | | | 2 | | 10 59 |
| Nakina, B.C. | 7 | 5 | 6 99 | 3 | 3 | | | | 4 | 2 | | 6 99 |
| Nechacco, B.C. | 249 | 215 | 241 07 | 283 | 270 | 268 68 | 34 | 55 | | | 27 61 | |
| Ninth Cabin, B.C. | 9 | 2 | 7 66 | 21 | 11 | 36 45 | 12 | 9 | | | 28 79 | |
| Ogilvie, Y.T. | 61 | 37 | 32 92 | 113 | 61 | 58 28 | 52 | 24 | | | 25 36 | |
| 59 Mile House, B.C. | 94 | 67 | 23 03 | 102 | 82 | 31 23 | 8 | 15 | | | 8 20 | |
| 70 " | 141 | 65 | 37 69 | 81 | 47 | 32 59 | | | 60 | 18 | | 5 10 |
| 74 " | 42 | 47 | 11 65 | 58 | 71 | 10 10 | 16 | 24 | | | | 1 56 |
| 83 " | 197 | 202 | 58 46 | 170 | 142 | 45 80 | | | 27 | 60 | | 12 66 |
| 100 " | 83 | 69 | 29 24 | 80 | 62 | 43 54 | | | 3 | 7 | 14 30 | |
| 105 " | 176 | 161 | 91 06 | 132 | 125 | 81 07 | | | 44 | 36 | | 9 99 |
| 115 " | 552 | 343 | 307 60 | 589 | 348 | 262 03 | 37 | 5 | | | | 45 57 |
| 122 " | | | | 56 | 39 | 17 48 | 56 | 39 | | | 17 48 | |
| 134 " | 101 | 79 | 36 86 | 92 | 100 | 36 15 | | 21 | 9 | | | 0 71 |
| 141 " | 179 | 160 | 80 05 | 199 | 143 | 94 72 | 20 | | | 17 | 11 67 | |
| 150 " | 1,807 | 1,601 | 1,065 02 | 1,987 | 1,757 | 1,187 99 | 180 | 156 | | | 122 97 | |
| 158 " | 109 | 126 | 68 67 | 87 | 97 | 55 06 | | | 22 | 29 | | 13 61 |
| Packard's, B.C. | | | | | | | | | | | | |
| Quesnel, B.C. | 3,635 | 3,236 | 2,832 72 | 4,319 | 3,949 | 3,278 26 | 684 | 713 | | | 445 54 | |
| Rowed's, B.C. | | | | | | | | | | | | |
| Second Cabin, B.C. | 27 | 19 | 16 56 | 49 | 31 | 43 65 | 22 | 12 | | | 27 09 | |
| Seventh Cabin, B.C. | 4 | 2 | 1 54 | 6 | 10 | 10 20 | 2 | 8 | | | 8 66 | |
| Shepherd's, B.C. | 79 | 75 | 56 30 | 54 | 32 | 19 10 | | | 25 | 43 | | 37 20 |
| Shesley, B.C. | 9 | 3 | 0 65 | 41 | 28 | 42 61 | 32 | 25 | | | 41 96 | |
| Sixth Cabin, B.C. | 16 | 11 | 5 79 | 4 | 11 | 1 77 | | | 12 | | | 4 02 |
| Soda Creek, B.C. | 928 | 942 | 461 09 | 1,179 | 998 | 524 56 | 251 | 56 | | | 63 47 | |
| South Bulkley, B.C. | 104 | 87 | 92 28 | 366 | 234 | 307 38 | 262 | 147 | | | 215 10 | |
| Stella, B.C. | | | | 202 | 174 | 188 08 | 202 | 174 | | | 188 08 | |
| Stewart River, Y.T. | 208 | 152 | 231 14 | 233 | 159 | 316 27 | 25 | 7 | | | 85 13 | |
| Stuart Lake, B.C. | | | | 57 | 67 | 89 86 | 57 | 67 | | | 89 86 | |
| Tagish, Y.T. | | 1 | | 1 | 2 | 0 50 | 1 | 1 | | | 0 50 | |
| Tantalus, Y.T. | 68 | 54 | 124 16 | 80 | 72 | 186 45 | 12 | 18 | | | 62 29 | |
| Telegraph Creek, B.C. | 219 | 244 | 558 21 | 339 | 347 | 808 70 | 120 | 103 | | | 250 49 | |
| Telkwa | 578 | 491 | 617 12 | 1,693 | 1,475 | 1,962 91 | 1,115 | 984 | | | 1,345 79 | |
| Third Cabin, B.C. | 11 | 12 | 12 58 | 20 | 24 | 10 23 | 9 | 12 | | | | 2 35 |
| 25 Mile Cabin, B.C. | 2 | | 2 99 | 0 | 1 | | | 1 | 2 | | | 2 99 |
| White Horse, Y.T. | 1,736 | 1,872 | 3,685 12 | 2,214 | 2,388 | 4,999 33 | 478 | 516 | | | 1,314 21 | |
| Windt's, B.C. | 40 | 46 | 15 96 | 44 | 60 | 23 34 | 4 | 14 | | | 7 38 | |
| Yorston's, B.C. | 183 | 174 | 105 26 | 114 | 229 | 42 41 | | 55 | 69 | | | 62 85 |
| Yukon Crossing, Y.T. | 96 | 77 | 108 81 | 105 | 87 | 116 15 | 9 | 10 | | | 7 34 | |
| Totals | 62,880 | 66,090 | 87,085 02 | 73,968 | 76,963 | 93,492 41 | 13,925 | 13,976 | 2,837 | 3,103 | 12,059 93 | 5,652 54 |

*Fraser Lake to Stuart Lake—Branch Line, from Oct. 21st 1912.

# YUKON TELEGRAPHS—*Continued.*

## HAZELTON—PRINCE RUPERT BRANCH.

COMPARATIVE Statement of Revenue, for the Years ending March 31, 1912, and March 31, 1913—*Continued.*

| Offices. | Fiscal Year, 1911-1912. | | | Fiscal Year, 1912-1913. | | | Summary. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Messages. | | | | Revenue. | |
| | Messages. | | Revenue. | Messages. | | Revenue. | Increase. | | Decrease. | | Increase. | Decrease. |
| | Sent. | Rec'd. | $ cts. | Sent. | Rec'd. | $ cts. | Sent. | Rec'd. | Sent. | Rec'd. | $ cts. | $ cts. |
| (1) Bostrom's, B.C. | 528 | 372 | 345 67 | 7 | 3 | 4 75 | | | 521 | 369 | | 340 92 |
| Cassiar, B.C. | 87 | 86 | 140 13 | 42 | 36 | 88 60 | | | 45 | 50 | | 51 53 |
| Cedarvale, B.C. | 198 | 159 | 133 49 | 79 | 65 | 48 90 | | | 119 | 94 | | 84 59 |
| Copper River, B.C. | 732 | 539 | 558 03 | 120 | 94 | 75 04 | | | 612 | 445 | | 482 99 |
| Digby Island, B.C. | 715 | 274 | | 1,690 | 1,079 | | 975 | 805 | | | | |
| Georgetown, B.C. | 26 | 25 | 96 80 | 37 | 50 | 113 10 | 11 | 25 | | | 16 30 | |
| Graveyard Pt, B.C. | 42 | 27 | 25 31 | 33 | 18 | 41 75 | | | 9 | 9 | 16 44 | |
| (2) Hardscrabble, B.C. | 639 | 528 | 404 00 | 103 | 83 | 78 84 | | | 536 | 445 | | 325 16 |
| Haysport, B.C. | 590 | 607 | 801 86 | 768 | 660 | 1,103 25 | 178 | 53 | | | 301 39 | |
| Hole-in-Wall, B.C. | 156 | 129 | 95 26 | 50 | 39 | 38 57 | | | 106 | 90 | | 56 69 |
| Inverness, B.C. | 107 | 89 | 177 66 | 108 | 87 | 120 26 | 1 | | 2 | | | 57 40 |
| Kitselas, B.C. | 3,701 | 2,189 | 1,996 55 | 509 | 451 | 329 53 | | | 3,192 | 1,738 | | 1,667 02 |
| Kitsumkalum, B.C. | 700 | 643 | 484 92 | 469 | 412 | 298 70 | | | 231 | 231 | | 186 22 |
| (3) Kitwangar, B.C. | 502 | 420 | 289 85 | 249 | 229 | 191 60 | | | 253 | 191 | | 98 25 |
| Lorne Creek, B.C. | 320 | 250 | 181 20 | 74 | 68 | 53 75 | | | 246 | 182 | | 127 45 |
| McHugh's, B.C. | 280 | 178 | 174 06 | 21 | 11 | 19 75 | | | 259 | 167 | | 154 31 |
| (4) McLeod's, B.C. | 10 | 6 | 6 47 | | | | | | 10 | 6 | | 6 47 |
| New Hazelton, B.C. | 1,235 | 1,326 | 1,923 51 | 3,363 | 3,208 | 4,738 19 | 2,128 | 1,882 | | | 2,814 68 | |
| (5) Nicholl, B.C. | 223 | 156 | 72 84 | 83 | 83 | 34 58 | | | 140 | 73 | | 38 26 |
| North Pacific, B.C. | 66 | 48 | 105 87 | 48 | 53 | 74 88 | | 5 | 18 | | | 30 99 |
| Port Edward, B.C. | | | | 21 | 19 | | 21 | 19 | | | | |
| Port Simpson, B.C. | 452 | 379 | 467 43 | 491 | 396 | 535 37 | 39 | 17 | | | 67 94 | |
| Prince Rupert, B.C. | 19,062 | 18,435 | 29,411 44 | 18,766 | 17,642 | 26,844 15 | | | 296 | 793 | | 2,567 29 |
| Telegraph Point, B.C. | 98 | 48 | 57 28 | 35 | 26 | 25 41 | | | 63 | 22 | | 31 87 |
| Terrace, B.C. | | | | 43 | 48 | 49 76 | 43 | 48 | | | 49 76 | |
| (6) Van Arsdol, B.C. | 2 | 1 | 2 87 | 212 | 132 | 127 34 | 210 | 131 | | | 124 47 | |
| Tota's | 30,471 | 26,914 | 37,952 50 | 27,421 | 24,992 | 35,036 07 | 3,606 | 2,985 | 6,656 | 4,907 | 3,390 98 | 6,307 41 |

(1) Closed, April 26, 1912. (2) Closed, June 24, 1912. (3) Formerly "Shandilla." (4) Closed, March 12, 1912. (5) Formerly "Sheadys.' (6) Closed June 24, 1912.

## LILLOOET BRANCH.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Coronation, B.C. | | | | 65 | 23 | 18 25 | 65 | 23 | | | 18 25 | |
| Fairhaven, B.C. | | | | 30 | 10 | 8 25 | 30 | 10 | | | 8 25 | |
| Lillooet, B.C. | 624 | 638 | 468 44 | 1,830 | 1,630 | 1,566 84 | 1,206 | 992 | | | 1,098 40 | |
| Mission Landing, B.C. | | | | 17 | 5 | 3 25 | 17 | 5 | | | 3 25 | |
| Pavilion, B.C. | 97 | 94 | 63 30 | 110 | 131 | 71 07 | 13 | 37 | | | 7 77 | |
| Portage, B.C. | | | | 3 | 2 | 1 50 | 3 | 2 | | | 1 50 | |
| Seton Lake, B.C. | | | | 291 | 216 | 56 50 | 291 | 216 | | | 56 50 | |
| Tyanghton, B.C. | | | | 33 | 9 | 8 25 | 33 | 9 | | | 8 25 | |
| Totals | 721 | 732 | 531 74 | 2,379 | 2,026 | 1,733 91 | 1,658 | 1,294 | | | 1,202 17 | |

## BARKERVILLE BRANCH.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Barkerville, B.C. | 1,173 | 1,191 | 1,273 70 | 884 | 881 | 855 76 | | | 289 | 310 | | 417 94 |
| Cottonwood, B.C. | 113 | 110 | 43 92 | 112 | 134 | 47 85 | | 24 | 1 | | 3 93 | |
| Locke's, B.C. | 54 | 67 | 24 20 | 30 | 44 | 14 25 | | | 24 | 23 | | 9 95 |
| Stanley, B.C. | 275 | 169 | 231 77 | 287 | 185 | 273 04 | 12 | 16 | | | 41 27 | |
| Wingdam, B.C. | 37 | 45 | 11 50 | 110 | 108 | 58 50 | 73 | 63 | | | 47 00 | |
| Totals | 1,652 | 1,582 | 1,585 09 | 1,423 | 1,352 | 1,249 40 | 85 | 103 | 314 | 333 | 92 20 | 427 89 |

## HORSEFLY BRANCH.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Harper's Camp, B.C. | 263 | 217 | 160 87 | 191 | 174 | 199 00 | | | 72 | 43 | 29 13 | |
| Hydraulic, B.C. | 356 | 370 | 306 93 | 130 | 133 | 107 10 | | | 226 | 237 | | 199 83 |
| Quesnel Forks, B.C. | 165 | 141 | 92 45 | 330 | 264 | 215 97 | 165 | 123 | | | 123 52 | |
| Totals | 784 | 728 | 560 25 | 651 | 571 | 513 07 | 165 | 123 | 298 | 280 | 152 65 | 199 83 |

## LIVINGSTONE CREEK BRANCH.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Livingstone Creek, Y.T. | 43 | 22 | 72 10 | 22 | 11 | 23 70 | | | 21 | 11 | | 48 40 |
| Mason's Landing, Y.T. | | 1 | | | | | | | | 1 | | |
| Totals | 43 | 23 | 72 10 | 22 | 11 | 23 70 | | | 21 | 12 | | 48 40 |

## YUKON TELEGRAPHS—*Continued.*

### STEWART BRANCH.

COMPARATIVE Statement of Revenue, for the Years ending March 31, 1912, and March 31, 1913—*Continued.*

| Offices. | Fiscal Year, 1911-1912. | | | Fiscal Year, 1912-1913. | | | Summary. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Messages. | | | | Revenue. | |
| | Messages. | | Revenue. | Messages. | | Revenue. | Increase. | | Decrease. | | Increase. | Decrease. |
| | Sent. | Rec'd. | $ cts. | Sent. | Rec'd. | $ cts. | Sent. | Rec'd. | Sent. | Rec'd. | $ cts. | $ cts. |
| Aiyansh, B.C. | 74 | 50 | 120 62 | 86 | 83 | 80 37 | 12 | 33 | | | | 40 25 |
| Alice Arm, B.C. | 49 | 37 | 91 11 | 72 | 56 | 81 91 | 23 | 19 | | | | 9 20 |
| Cedar River, B.C. | 1 | | 2 25 | 13 | 6 | 7 66 | 12 | 6 | | | 5 41 | |
| Goose Bay, B.C. | 172 | 139 | 324 14 | 566 | 443 | 1114 72 | 394 | 304 | | | 790 58 | |
| Stewart, B.C. | 534 | 507 | 1271 69 | 804 | 747 | 1511 04 | 270 | 240 | | | 239 35 | |
| Totals | 830 | 733 | 1,809 81 | 1,541 | 1,335 | 2,795 70 | 711 | 602 | | | 1,035 34 | 49 47 |

### BELLA COOLA BRANCH.

| | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Alexis Creek, B.C. | | | | 17 | 6 | 7 25 | 17 | 6 | | | 7 25 | |
| Bayliff's, B.C. | | | | 2 | 1 | 6 04 | 2 | 1 | | | 6 04 | |
| Becher's, B.C. | | | | 49 | 50 | 30 87 | 49 | 50 | | | 30 87 | |
| Bella Coola, B.C. | | | | 98 | 74 | 167 19 | 98 | 74 | | | 167 19 | |
| Chilanco Forks, B.C. | | | | | | | | | | | | |
| Hanceville, B.C. | | | | 22 | 22 | 17 67 | 22 | 22 | | | 17 67 | |
| Klunakluna, B.C. | | | | 7 | 1 | 5 78 | 7 | 1 | | | 5 78 | |
| Lee's, B.C. | | | | 16 | 8 | 12 92 | 16 | 8 | | | 12 92 | |
| Mosher's, B.C. | | | | | | | | | | | | |
| Onward Ranch, B.C. | | | | 1 | | 1 05 | 1 | | | | 1 05 | |
| Tatla Lake, B.C. | | | | 0 | 1 | | | 1 | | | | |
| William's Lake, B.C. | | | | 1 | 2 | 1 15 | 1 | 2 | | | 1 15 | |
| Totals | | | | 213 | 165 | 249 92 | 213 | 165 | | | 249 92 | |

## YUKON TELEGRAPHS.—*Concluded.*

### SUMMARIES.

(Year 1912-13, as compared with Year 1911-12.)

Showing Increases and Decreases in Messages and Revenue.

*Main Line and all Branches.*

MAIN LINE—(ASHCROFT-DAWSON.)

| | | |
|---|---|---|
| Net increase in messages 'Sent' | | 11,088 |
| " " 'Received' | | 10,873 |
| " revenue | $ | 6,407.39 |

HAZELTON-PRINCE RUPERT BRANCH.

| | | |
|---|---|---|
| Net decrease in messages 'Sent' | | 3,050 |
| " " 'Received' | | 1,922 |
| " revenue | $ | 2,916.43 |

LILLOOET BRANCH.

| | | |
|---|---|---|
| Net increase in messages 'Sent' | | 1,658 |
| " " 'Received' | | 1,294 |
| " revenue | $ | 1,202.17 |

BARKERVILLE BRANCH.

| | | |
|---|---|---|
| Net decrease in messages 'Sent' | | 229 |
| " " 'Received' | | 230 |
| " revenue | $ | 335.69 |

HORSEFLY BRANCH.

| | | |
|---|---|---|
| Net decrease in messages 'Sent' | | 133 |
| " " 'Received' | | 157 |
| " revenue | $ | 47.18 |

LIVINGSTONE CREEK BRANCH.

| | | |
|---|---|---|
| Net decrease in messages 'Sent' | | 21 |
| " " 'Received' | | 12 |
| " revenue | $ | 48.40 |

STEWART BRANCH.

| | | |
|---|---|---|
| Net increase in messages 'Sent' | | 711 |
| " " 'Received' | | 602 |
| " revenue | $ | 985.89 |

BELLA COOLA BRANCH.

| | | |
|---|---|---|
| Net increase in messages 'Sent' | | 213 |
| " " 'Received' | | 165 |
| " revenue | $ | 249.92 |
| Total number of messages 'Sent' for year ending March 31, 1913 | | 107,618 |
| " " 'Received' for year ending March 31, 1913 | | 107,415 |
| Total revenue for year ending March 31, 1913 | | $135,094.18 |

GENERAL SUMMARY.

| | | |
|---|---|---|
| Total increase over preceding year—Messages 'Sent' | | 10,237 |
| " " " 'Received' | | 10,613 |
| " " Revenue | $ | 5,497.67 |

## REPORT No. 13.—CABLE SHIP *'TYRIAN.'*

North Sydney, C.B., N.S., March 31, 1913.

D. H. Keeley, Esq.,
General Superintendent Government Telegraph Service,
Ottawa, Ont.

Dear Sir,—The cable steamer *Tyrian* had extensive repairs to her hull and boilers during the past season. Her hull is in good condition now, as evidenced by the way she came through the storms of this past winter.

Herewith please find a summary of the work done, and cable handled since she went into commission on November 8, 1912, to date.

Nov. 8.—Repairs completed.
9.—Took in water and stores.
10.—Sailed for Grand Manan.
11.—Arrived at Long Eddy and located break.
12 to 20.—Repairing Grand Manan cable (two breaks).
20 to 26.—Repairing Wilson's Beach-Deer Island cable.
27 to Dec. 6.—Laying new cable to Partridge Island and repairing two breaks in old cable.
Dec. 7.—Went to Grand Manan to repair Gannet Rock circuit.
8.—Located the trouble.
9.—Repaired cable at Seal Cove. Sailed for Halifax.
10.—Arrived at Halifax.
11 and 12.—At Halifax, N.S.
13.—Sailed for North Sydney.
14.—Arrived at North Sydney.
15 to 17.—At North Sydney; bunkered the ship.
18.—Sailed for repair of Magdalen Island cable.
19.—Cable work stopped by bad weather; went to Pictou, N.S.
20.—Arrived at Pictou, to repair cable to Prince Edward Island.
21.—Mr. Young, of the Maritime Telegraph and Telephone Co., joined the ship.
22 to 28.—Working at the above cable.
29.—Went to North Sydney; landed Mr. Young.
Jan. 1 to 11.—Repairing the Magdalen Island cable.
12 to 13.—At North Sydney; bunkered the ship.
14.—Went to Halifax.
15 to 24.—At Halifax.
25.—Sailed for St. John, N.B.
29.—Arrived at St. John.
30 to Feb. 4.—Repairing and relaying Partridge Island cable.
Feb. 5.—Sailed for Halifax.
7.—Arrived at Halifax.
8 to 15.—Reeling cable for shipment to British Columbia.
16 to 19.—Ready to sail for repair of Gannet Rock cable.
20.—Sailed for Gannet Rock.
21.—Arrived at Gannet Rock and located break.
22.—Repaired cable.
23.—Sailed for Halifax.
24.—Arrived at Halifax.
25 to 27.—Reeling cable.
28.—Trucking cable to station.

Mar. 4.—Shipped twelve reels of cable to British Columbia.
5 to 11.—At Halifax.
12.—Sailed for East Port to repair Deer Island-East Port cable.
13.—Arrived at East Port and located break.
14 and 15.—Repairing cable.
17.—Sailed for Halifax.
18.—Arrived at Halifax.
18 to 31.—At Halifax.

## LENGTHS OF CABLE.

| Date. | Deep Sea. | Knots. | Knots. |
|---|---|---|---|
| 1912 | | | |
| April 1 | Cable on hand | | 14·16 |
| " 19 | Sent to British Columbia | 1·50 | |
| May 23 | " " | 2·66 | |
| Sept. 10 | Sent to Levis | 3·00 | |
| Oct. 23 | Received from *S. S. Durango* | | 41·00 |
| " 26 | Sent to British Columbia | 1·00 | |
| Nov. 20 | Grand Manan repair, picked up | | ·60 |
| " 20 | " laid | 2·52 | |
| " 26 | Deer Island repair, laid | 2·24 | |
| Dec. 5 | Partridge Island cable repair, new cable | ·60 | |
| " 5 | " repairing old cable | ·24 | |
| " 6 | " " | ·05 | |
| " 23 | Laid Caribou Cove towards Wood Island, new cable | 8·69 | |
| 1913 | | | |
| Jan. 11 | Magdalen Island Cable repair, laid | ·20 | |
| Feb. 22 | Gannet Rock Cable repair, laid | ·20 | |
| March 4 | Sent to British Columbia twelve reels | 14·00 | |
| " 15 | East Port—Deer Island repair, laid | 1·95 | |
| " 15 | " " picked up | | 1·95 |
| " 31 | Condemned cable in above about | ·50 | |
| " 31 | Deep Sea Cable on hand | 18·39 | |
| | | 57·71 | 57·71 |

## SHORE END CABLE.

| | | | |
|---|---|---|---|
| 1912 | | | |
| April 1 | Shore end cable on hand | 1·24 | |
| Oct. 23 | Received from *S. S. Durango* | 1·00 | |
| 1913 | | | |
| Mar. 31 | Total aboard | 2·24 | |

I have the honour to be, sir,
Yours faithfully,

A. B. McDONALD,
*Electrician, C.G.S. 'Tyrian.'*

## CABLE SHIP 'TYRIAN.'

HALIFAX, N.S., April 1, 1913.

D. H. KEELEY, Esq.,
General Superintendent Government Telegraph Service,
Ottawa, Ont.

DEAR SIR,—I have the honour to submit herewith memorandum of expenditure covering my department from April 1, 1912, to March 31, 1913.

*Boarding Crew as per Contract.*

| 1912. | As per Cheque. | |
|---|---|---|
| April | $783 00 | |
| May | 763 90 | |
| June | 804 00 | |
| July | 897 70 | |
| August | 915 50 | |
| September | 867 00 | |
| October | 910 70 | |
| November | 923 30 | |
| December | 978 45 | |
| 1913. | | |
| January | 975 50 | |
| February | 843 30 | |
| March | 945 55 | |
| | | $10,607 90 |

*Maintenance and Repairs.*

| | | |
|---|---|---|
| F. H. and W. F. Francis | $298 80 | |
| Wentzells, Ltd | 234 90 | |
| Webster, Smith & Co | 252 22 | |
| Ungar Laundry | 231 39 | |
| J. A. Leaman & Co | 140 00 | |
| Colwell Bros., Ltd | 161 50 | |
| Globe Laundry | 59 77 | |
| A. J. Grant & Co | 28 74 | |
| James Kelly | 10 00 | |
| Baldwin & Co | 5 25 | |
| | | $ 1,422 57 |
| | | $12,030 47 |

I have the honour to be, sir,
Your obedient servant,

D. A. McDONALD,
*Steward, C.G.S. 'Tyrian.'*

PART VI

# REPORT OF THE COLLECTOR OF REVENUE

## DEPARTMENT OF PUBLIC WORKS

1912-13

DEPARTMENT OF PUBLIC WORKS,
COLLECTION OF REVENUE,
OTTAWA, July 7, 1913.

The Secretary,
Department of Public Works,
Ottawa.

SIR,—I have the honour of submitting my report for the twelve months ended March 31, 1913.

During the twelve months just closed, the revenue accrued from public works shows an increase of $67,195.72, being $248,448.82, while in the preceding year it was $181,253.10.

The collections show an increase of $75,128.33, being $246,887.66, while in 1911-12 they amounted to $171,759.33.

The revenue accrued from slides and booms was $108,772.81, or $18,753.58 more than for year ended March 31, 1912.

The collections were $110,108.34, or $22,318.61 more than the previous year.

The outstanding uncollected revenue from slides and booms was reduced by $1,335.53.

The graving docks yielded $47,927.51, or $2,687.33 less than in 1911-12.

Sales and rents collected amounted to $88,851.81, an increase of $55,497.05.

Having dealt with the revenue in a general way, I now submit the particulars, in detail, relative to the several services under their respective heads.

## SLIDES AND BOOMS.

### OTTAWA DISTRICT.

The tolls charged up amounted to $42,928.78, or $8,725.90 more than in 1911-12.

The number of sawlogs that passed through the works was 4,360,280, or 288,174 pieces more than the previous year.

Of square timber there was none.

Of the revenue accrued during the year all but $251.15 was collected.

Of the dues accrued since July 1, 1889, when this department took over the collection, there remains uncollected $9,120.13, full particulars of which will be found in statement No. 2 herewith.

Of the dues accrued before July 1, 1889, there still remains $56,805.65, all of which should be written off. See statements Nos. 1 and 3 herewith for particulars.

The accounts for the Ottawa district stand thus:—

| | | |
|---|---|---|
| Dues accrued during the year to March 31, 1913 | | $42,928 78 |
| Outstanding, March 31, 1912 | | 9,093 80 |
| | | $52,022 58 |
| Collected | | 42,902 45 |
| Balance outstanding March 31, 1913 | | $9,120 13 |

Being composed of:—

| | |
|---|---|
| Dues of 1889-90 | $6,903 05 |
| " 1890-91 | 28 42 |
| " 1892-93 | 379 80 |
| " 1896-97 | 196 71 |
| " 1903-04 | 637 37 |
| " 1911-12 | 723 63 |
| " 1912-13 | 251 15 |
| | $9,120 13 |

Balance of dues outstanding prior to July 1, 1889, when this department took over the collection $56,805 65

Herewith are statements in detail.

No. 1.—Statement of amounts outstanding prior to July 1, 1889, uncollected March 31, 1913.

No. 2.—Statement of dues accrued at Ottawa since July 1, 1889, uncollected March 31, 1913.

No. 3.—Statement of dues accrued at Quebec prior to July 1, 1889, uncollected March 31, 1913.

No. 4.—Statement of the number of pieces of square timber, sawlogs, &c., which passed through the Ottawa works during the year ended March 31, 1913.

No. 5.—Statement of dues accrued from each of the slides and works of the Ottawa district during the year ended March 31, 1913.

Apart from three accounts amounting to $1,003.26, all the revenue from the Ottawa slides and booms, since I took charge in 1889, has been collected, excepting such as should have been written off long ago, or a few items in dispute which I expect will have to be forgiven.

The increase in revenue in this district is not wholly due to the enhanced quantity of logs this year, but largely to a new account on the Petawawa, where the highest rates prevail.

ST. MAURICE DISTRICT.

The revenue accrued from this district was $61,045.91, being $10,468.26 more than in 1911-12.

The collections amounted to $61,020.91; $10,443.26 more than 1911-12.

Uncollected of 1909-10 dues, $3,709.62 disputed. There is also a small account of the past year unpaid, amounting to $25; with the exception of this $3,734.62, all the dues accrued in this district since I took it in 1892, have been collected.

The amount outstanding prior to July 1, 1892, remains unchanged, viz., $14,481.49, and should be written off for reasons assigned in statement No. 6 herewith.

The number of pieces of all kinds of timber that passed through the works was equivalent to 7,302,180 pulp and sawlogs, or 1,701,597 pieces more than the previous year. The increase seems out of proportion to the increase of revenue, but, as a matter of fact, much of it was logs for Grand Mère and Shawenegan, where the smallest rates prevail.

The summer of 1912 was very favourable to lumbering on the St. Maurice, yet a large number of logs were left in the boom at the mouth last autumn.

My expectations of last year were realized. In consequence of the policy of the Quebec government, the Grès Falls Co., which formerly shipped very large quantities of pulpwood, have in operation a pulp-mill at Pointe à Magdeleine on the east side of the St. Maurice, which will in all probability be enlarged to double its present capacity. The Wayagamac Pulp and Paper Co., who purchased the Alex. Baptist

business, have large mills which were in operation at Baptists's island, hence the revenue from the St. Maurice works showed quite a substantial increase in 1912-13.

For the current year, I do not expect quite as large a quantity of logs at Three Rivers, because in consequence of the provincial regulations prohibiting the export of pulpwood, one concern that consumed in the vicinity of 1,000,000 logs annually will not, for a time at least, be able to use much more than a third of this quantity.

NEWCASTLE DISTRICT.

The dues accrued from this district amounted to $1,447, being $44.11 more than the previous year, all collected at this date.

The tolls outstanding on March 31, 1913, amounted to $3,556.89, of which $3,521.19 should be written off in accordance with a judgment in the Exchequer Court; $35.70 will also have to be forgiven, the debtor being hopelessly insolvent at the time of his decease.

Full particulars of amount outstanding will be found in statement No. 7 herewith.

SAGUENAY DISTRICT.

The dues accrued during the year ended March 31 last amounted to $3,351.12, all paid but $5, being $484.69 less than in 1911-12.

The shortage here was not as great as I anticipated last year, although but one concern was in operation.

For the current year, I do not anticipate even as large a revenue, but next year, if they carry out present intentions, another firm will bring down quite a quantity of logs through our boom, and probably bring up the revenue to over $4,000.

## GRAVING DOCKS.

ESQUIMALT GRAVING DOCK.

The revenue from this service was $9,563.96, being $7,292.86 less than the previous year, one account for $550 not included, being unpaid by Marine and Fisheries Department. (See statement No. 9.)

Of the eighty days the dock was occupied during the year it was used for five days by H.M. vessels. The total number of vessels docked was eighteen of 48,209 tons.

LÉVIS GRAVING DOCK.

The revenue was $4,605.53 more than for the year 1911-12, being $28,363.55. (See statement No. 10.)

During the season of navigation, the dock was occupied for 238 days by 15 vessels of 29,174 tons.

During hhe winter of 1912-13, it was occupied by ss. *Lord Strathcona, Cascapedia,* dredges *International* and *Progress* and tugs *Archie Stewart* and *Storm King.*

During the past year, in consequence of certain complaints, a commission of inquiry investigated the affairs of this dock. One conclusion arrived at was that the rates were high and that the Government should not expect to make a profit out of a public convenience. When it is considered that out of $28,363.55, the revenue for 1912-13, $12,085.50 was paid by the Government itself, the balance, $16,278.05, would not leave much for profit after expense of operation and maintenance was paid.

KINGSTON GRAVING DOCK.

The revenue was $10,000.

On May 1, 1910, the Kingston Shipbuilding Co. took possession of the dock under lease, the rental of which, $10,000 per annum, was payable at the end of each year.

## RENTS.

With regard to the collection of the rentals under leases granted by this department, which was formerly done by the Inland Revenue Department.

Statement Nos. 11 and 13 show in detail the condition on March 31, 1913, of the accounts taken over on March 31, 1909, from the Inland Revenue Department.

Statement No. 12 shows the condition of land sales and interest account, also from Inland Revenue Department, which shows no change for many years.

Several of the unsettled accounts are of many years' standing, some are under investigation, and others, I expect, will have to be written off, for good and sufficient reasons.

Exclusive of the above mentioned rentals, the revenue accrued from Government properties has been an important item, being in 1912-13, including sales and interest, $88,210.50, or $51,129.47 more than in 1911-12.

Of this sum $85,496.71 was collected; $871.42 written off, for commission and expenses, in lieu of repairs, or on account of poverty, and $10,973.35 was outstanding at the close of the year.

The greater portion of the increase in this account is due to the rentals from property on Wellington street, and streets adjoining, expropriated or purchased for new building sites.

A considerable portion of the amount uncollected is retained by tenants, pending settlement of their claims for compensation under leases and for other reasons. I expect that, with the exception of a few small accounts, the most of this indebtedness will be cleared off this year as to these properties.

The amount outstanding may appear large, but it must be borne in mind that included therein are $2,464.41, mostly Sussex street rents, carried over from last year, and $3,333.34 not yet due on a sale in Westminster, B.C.

In the case of the Sussex street rents, most of the buildings, since demolished, were old and in very bad condition; only the poorer class of people would rent them, and when these, as in many instances, were overtaken by sickness and other misfortunes, we could not put them on the street, and they could not pay; hence the source of this deficit, which will have to be written off in many cases.

The Wellington street properties are being well looked after by five agents, and I do not anticipate much loss in the rentals from this source.

The large increase in this account has been a serious load in this office; nevertheless, I am glad to say that it has been kept well up to date.

Statement of rents collected, Public Works revenue, during the year ended March 31, 1913.

| | |
|---|---|
| Hydraulic and other rents | $ 3,355 00 |
| Sussex street block, Ottawa | 3,951 50 |
| Egan block, Wellington (south), Ottawa | 7,561 55 |
| Wellington street (north) Ottawa | 43,275 50 |
| Province Saskatchewan | 5,889 00 |
| " Alberta | 772 00 |
| " Manitoba | 441 00 |
| Sundry places | 1,273 00 |
| Public building sites | 1,977 10 |
| Rents, old post office building, Victoria, B.C. | 6,552 00 |
| Sales and interest | 13,804 16 |
| | $88,851 81 |

The following comparative table of Public Works revenue accrued during the year ended March 31, 1913, compared with that of the fiscal year ended March 31, 1912.

shows at a glance on what accounts increases and decreases herein reported have occurred:—

| — | Year ended March 31, 1913. | Year ended March 31, 1912. | Increase, 1913. | Decrease, 1913. |
|---|---|---|---|---|
| *Slides and Booms.* | $ cts. | $ cts. | $ cts. | $ cts. |
| Ottawa district | 42,928 78 | 34,202 88 | 8,725 90 | |
| St. Maurice district | 61,045 91 | 50,577 65 | 10,468 26 | |
| Newcastle district | 1,447 00 | 1,402 89 | 44 11 | |
| Saguenay district | 3,351 12 | 3,835 81 | | 484 69 |
| | 108,772 81 | 90,019 23 | 19,238 27 | 484 69 |
| Net increase, $18,753.58. | | | | |
| *Graving Docks.* | | | | |
| Esquimalt, B.C | 9,563 96 | 16,856 82 | | 7,292 86 |
| Kingston, Ont | 10,000 00 | 10,000 00 | | |
| Levis, Que | 28,363 55 | 23,758 02 | 4,605 53 | |
| | 47,927 51 | 50,614 84 | 4,605 53 | 7,292 86 |
| Net decrease, $2,687.33. | | | | |
| *Rents and Sales.* | | | | |
| Hydraulic rents | 3,512 00 | 3,675 00 | | 163 00 |
| Minor public works | 26 00 | 26 00 | | |
| Other public properties | 88,210 50 | 36,918 03 | 51,292 47 | |
| | 91,748 50 | 40,619 03 | 51,292 47 | 163 00 |
| Net increase, $51,129.47. | | | | |
| *Accrued* | | | | |
| Slide and boom dues | 108,772 81 | 90,019 23 | 18,753 58 | |
| Graving docks | 47,927 51 | 50,614 84 | | 2,687 33 |
| Rents and sales | 91,748 50 | 40,619 03 | 51,129 47 | |
| | 248,448 82 | 181,253 10 | 69,883 05 | 2,687 33 |
| Net increase, $67,195.72. | | | | |
| *Collected.* | | | | |
| Slide and boom dues | 110,108 34 | 87,789 73 | 22,318 61 | |
| Graving docks | 47,927 51 | 50,614 84 | | 2,687 33 |
| Rents and sales | 88,851 81 | 33,354 76 | 55,497 05 | |
| | 246,887 66 | 171,759 33 | 77,815 66 | 2,687 33 |
| Net increase, $75,128.33. | | | | |

In conclusion, I have to acknowledge the uniform courtesy and cheerful assistance accorded me at all times by the officers of the department with whom I have been brought in contact during the year.

I have the honour to be,
Your obedient servant,

EDW. T. SMITH,
*Collector of Public Works Revenue.*

No. 1.—STATEMENT of Slidage and Boomage from the Ottawa Slides and Works, accrued prior to July 1, 1889, outstanding March 31, 1913.

| By whom due. | Bad and Doubtful Debts. | Chaudiere Boomage in Suspense. | Other Slide and Boom Dues disputed. | Total outstanding on Sept. 30, 1902. | Year to which Dues belong. | Remarks. |
|---|---|---|---|---|---|---|
| | $ cts. | $ cts. | $ cts. | $ cts. | | |
| John and Wm. McLean | 53 14 | | | 53 14 | 1873 | Insolvent. |
| John Rowan | 342 50 | | | 342 50 | 1872-1873 | " |
| Lemieux and Charette | 21 30 | | | 21 30 | 1873 | " |
| Taillon and Lapierre | 148 10 | | | 148 10 | 1873-1874 | " |
| Mosgrove and McHarry | 261 42 | | | 261 42 | 1873-1874 | " |
| W. C. Wells | 600 90 | | | 600 90 | 1873-1874 | " |
| Dufresne and McGarity | 528 80 | | | 528 80 | 1874-1875 | " |
| Walton Smith | 171 46 | | | 171 46 | 1874-1875 | " |
| A. H. Baldwin | 3,507 92 | | | 3,507 92 | 1871 to 1874 | " |
| Hon. James Skead | 9,807 65 | | | 9,807 65 | 1861, 1863, 1864, 1869, 1875 to 1878. | " |
| Batson and Currier | 5,558 70 | | | 5,558 70 | 1875 to 1877 | " |
| A. F. A. Knight | 546 30 | | | 546 30 | 1878 | " |
| James Walker | 11 25 | | | 11 25 | 1877 | " |
| R. Campbell & Son | 1,558 50 | | | 1,558 50 | 1879 to 1881 | " |
| James G. Bryson | 73 50 | | | 73 50 | 1886 | " |
| Costello Bros | 90 62 | | | 90 62 | 1882 | " |
| N. E. Cormier | 428 34 | | | 428 34 | 1888 | " |
| James Yuhill | 9 29 | | | 9 29 | 1876 | Overcharge. |
| J. and B. Grier | 76 84 | | | 76 84 | 1883 | " |
| R. and W. Conroy | 95 42 | | | 95 42 | 1882-1883 | " reported in return S—38, for March, 1886. |
| A. P. White | 101 00 | | | 101 00 | 1881 | " |
| B. Caldwell & Son | 4 33 | | | 4 33 | 1887 | " |
| J. R. Booth | | 9,871 92 | 398 88 | 10,270 81 | 1881 to 1888 | $398.88, counter claim for damages by the breaking of Coulonge boom. |
| Perley and Pattee | | 8,889 85 | | 8,889 85 | 1881 to 1888 | |
| The Bronson and Weston Lumber Co | | 8,180 79 | | 8,180 79 | 1881 to 1888 | |
| Pierce & Co | | 462 18 | | 462 18 | 1888 | |
| G. A. Grier & Co | | 1,060 59 | | 1,060 59 | 1886-1887 | *Chaudière boomage. These parties claim that they have maintained these works wholly at their own expense since 1881. |
| Estate late Levi Young | | 1,461 20 | | 1,461 20 | 1881 to 1885 | |
| Wm. Mason | | 413 85 | | 413 85 | 1881 to 1888 | |
| Gilmour & Co | | 406 27 | | 406 27 | 1884 | |
| John Rochester | | 258 88 | | 258 88 | 1881 to 1883 | |
| J. and G. Bryson | | | 252 20 | 252 20 | 1886 | Counter claim for damages by breaking of Coulonge works. |
| | 23,997 28 | 31,006 54 | 651 08 | 55,653 90 | | |

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, July 7, 1913.

EDW. T. SMITH,
*Collector of Slide and Boom Dues.*

No. 2.—STATEMENT of Slide and Boom Dues accrued from the Ottawa River Works, since July 1, 1889, outstanding on March 31, 1913.

| Name. | Year to which dues belong. | Chaudiere Boomage in Suspense. | Ordinary Dues. | Total. | Remarks. |
|---|---|---|---|---|---|
| | | $ cts. | $ cts. | $ cts. | |
| J. R. Booth | 1889-90 | 2,561 69 | | 2,561 69 | Chaudiere boomage reported to Council and referred to Treasury Board, should be written off. |
| The Bronson & Weston Lumber Co | 1889-90 | 2,056 96 | | 2,056 96 | |
| Perlee & Pattee | 1889-90 | 1,203 26 | | 1,203 26 | |
| Wm. Mason & Sons | 1889-90 | 167 66 | | 167 66 | |
| Pierce & Co | 1889-90 | 913 48 | | 913 48 | |
| Alex. Fraser, acc. Thos. Stephens | 1890-91 | | 28 42 | 28 42 | Legal action taken to recover this. |
| J. R. Booth | 1892-93 | | 379 80 | 379 80 | Retained by Mr. Booth in settlement of account due him, which the Auditor General refused to pay as Mr. Booth appeared to be in arrears in this and statement No. 1. |
| Bryson & Fraser | 1896 | | 196 71 | 196 71 | Have counter claim for work done on slide to this amount. |
| J. R. Booth | 1903 | | 339 27 | 339 27 | Petawawa slidage disputed. |
| Hawkesbury Lumber Co | 1903 | | 298 10 | 298 10 | " " " |
| Pembroke Lumber Co | 1911 | | 723 63 | 723 63 | Counter claim for building dam. |
| Pembroke Lumber Co | 1912 | | 251 15 | 251 15 | " " " " |
| | | 6,903 05 | 2,217 08 | 9,120 13 | |

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, July 7, 1913.

EDW. T. SMITH,
*Collector of Slide and Boom Dues.*

No. 3.—STATEMENT of outstanding Slide Dues, Ottawa District, bonds for which were sent to Quebec for collection.

| Name. | From 1860. | From 1861. | Total. |
|---|---|---|---|
| | $ cts. | $ cts. | $ cts. |
| Hon. James Skead | 245 00 | 210 00 | 455 00 |
| James Mair | | 696 75 | 696 75 |
| | 245 00 | 906 75 | 1,151 75 |

These amounts were uncollected, as the parties claimed damages for loss caused by the Madawaska boom breaking in 1860.

A decision on their claims was not arrived at till August 2, 1869. On the 5th idem. Messrs. Skead and Mair were notified that the department could not recognize their claim.

To the best of my knowledge, this decision was never communicated to the Collector of Slide Dues; consequently, these amounts remained in abeyance.

Since then, both parties died, and I believe both were insolvent at the time of their death.

EDW. T. SMITH,
*Collector of Slide and Boom Dues.*

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, July 7, 1913.

No. 4.—STATEMENT of the number of pieces of square timber, saw logs, &c., that passed through the Government slides and works on the river Ottawa and its tributaries during the fiscal year ended March 31, 1913.

| | Pieces. |
|---|---|
| Square timber | None. |
| Saw logs | 4,360,280 |
| Boom and dimension timber | 31,050 |
| Cedars | 21,638 |
| Railroad ties | 79,797 |
| Fence posts | 10,254 |
| | 4,503,019 |

Also 45,015 cords pulp wood.
The revenue accrued on the above was $42,928.78.

EDW. T. SMITH,
*Collector of Public Works Revenue.*

DEPARTMENT OF PUBLIC WORKS.

No. 5.—STATEMENT showing the Dues accrued on the undermentioned works on the river Ottawa and its tributaries during the fiscal year ended March 31, 1913.

| | Amount. |
|---|---|
| River or other improvement— | |
| Main Ottawa | $2,172 68 |
| Cheneaux boom | 3,990 93 |
| River Petawawa | 18,476 14 |
| Madawaska | 269 12 |
| Coulonge | 4,557 35 |
| Dumoine | 200 63 |
| Black river | 7,514 46 |
| Gatineau | 5,747 47 |
| | $42,928 78 |

EDW. T. SMITH,
*Collector of Public Works Revenue.*

DEPARTMENT OF PUBLIC WORKS.

No. 6.—STATEMENT of Slide and Boom Dues from the St. Maurice slides and works outstanding on March 31, 1913.

| Name. | Year to which dues belong. | Amount. | Total. | Remarks. |
|---|---|---|---|---|
| | | $ cts. | $ cts. | |
| George Baptist, Son & Co. | 1878 | 469 95 | | |
| " .. | 1879 | 2,110 62 | | |
| " .. | 1880 | 1,696 18 | | |
| " .. | 1881 | 293 69 | | |
| " .. | 1882 | 165 80 | | Have counter claims for damages to loss caused by the booms not being stretched early enough in the spring of 1878 to prevent the logs going over the chutes. |
| " .. | 1884 | 118 50 | | |
| " .. | 1888 | 4 28 | | |
| | | | 4,859 02 | |
| Ross, Ritchie & Co..... | 1878 | 3,072 84 | | The claims were submitted to Special Commissioner, Mr. McDougall, afterwards Judge, who, after hearing the evidence on both sides, recommended that the claims of the parties should be allowed. |
| " ..... | 1883 | 2,173 68 | | |
| " ... | 1884 | 28 96 | | |
| " ..... | 1886 | 1 62 | | |
| " .... | 1887 | 4 38 | | |
| | | | 5,281 48 | |
| Alex. Baptist..... | 1879 | ..... | 2,116 96 | |
| Wm. Ritchie & Co..... | 1888 | 779 24 | | |
| " ..... | 1889 | 332 11 | | |
| | | | 1,111 35 | Of this amount $754.20 is claimed to be an overcharge. Insolvent. |
| Ritchie Bros..... | 1886 | 413 43 | | |
| " ..... | 1887 | 634 71 | | |
| | | | 1,048 14 | This amount is composed of overcharges in 1886 and 1887 of $442.76 and overpayment in 1884 of $205.38. |
| G. B. Hall..... | 1890 | ..... | 49 34 | Insolvent. |
| T. E. Normand..... | 1890 | ..... | 42 28 | Claims that this balance is an overcharge. |
| Trefflé Biron..... | 1891 | ... .. | 0 92 | Would cost more to collect than it is worth. |
| | | | *14,481 49 | |
| Laurentide Paper Co.... | 1909 | 3,709 62 | 3,709 62 | Counter claims for damages. |
| Wayagamack Paper Co.. | 1912 | 25 00 | 25 00 | |
| | | | 18,216 11 | |

* To make this balance agree with the Public Accounts, there should be deducted $7.93 over credited Alex. Baptist, and $217.17 added thereto, being $190.40 paid July 23, 1884, and $26.77 overcharged in error to Wm. Little, not in any of the collector's returns, which will give balance due September 30, 1894, of $14,690.73.

EDW. T. SMITH,
*Collector of Public Works Revenue.*

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, July 7, 1913.

No. 7.—STATEMENT of Slides and Boom Dues accrued from the Newcastle and Trent River works, remaining uncollected March 31, 1913.

| Name. | Year to which dues belong. | Amounts disputed. | Ordinary dues. | Total. | Remarks. |
|---|---|---|---|---|---|
| | | $ cts. | $ cts. | $ cts. | |
| Irwin & Boyd | 1881 | 59 79 | | 59 79 | Insolvent. |
| Thomson & McArthur. | 1880 | 52 78 | | 52 78 | |
| Jabez Thurston | 1882 | 12 50 | | 12 50 | |
| McDougall & Ludgate. | 1879 | 65 07 | | 65 07 | |
| Bigelow & Trounce | 1882 to 1885 | 216 21 | | 216 21 | |
| R. G. Strickland | 1882, '83, '85, '86, and '87. | 215 08 | | 215 08 | |
| Est. late Geo. Hillard. | 1877 to 1883 and 1886 | 354 15 | | 354 15 | Dead and estate distributed. |
| T. G. Hazlett | 1881, '82, '84, and '89 | 885 25 | | 885 25 | According to judgment in Exchequer Court, *re* Boyd *vs.* Smith, these cannot be collected. |
| J. M. Irwin | 1882, '83, 85 and '88 | 698 45 | | 698 45 | |
| D. Ullyot | 1881 to 1887 | 547 68 | | 547 68 | |
| Green & Ellis | 1881 to '83, '85, '88 and '89 | 157 01 | | 157 01 | |
| A. W. Parkin | 1884, '85, '88, '90 and '91. | 65 92 | | 65 92 | |
| The Dickson Estate | 1883 | 137 50 | | 137 50 | |
| Alfred McDonald | 1888 | 40 80 | | 40 00 | |
| John Parkin | 1889 | 13 00 | | 13 00 | |
| John Dovey | 1894, '95, '96 | | 35 70 | 35 70 | Dead, insolvent. |
| | | 3,521 19 | 35 70 | 3,556 89 | |

EDW. T. SMITH,
*Collector of Public Works Revenue.*

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, July 7, 1913.

No. 8.—STATEMENT of Slide and Boom Dues from Saguenay works, uncollected March 31, 1913.

| Name. | Year to which Dues belong. | Amount. |
|---|---|---|
| Continental Dredging Co | 1912 | $ 5.00 |

EDW. T. SMITH,
*Collector of Public Works Revenue.*

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, July 7, 1913.

## THE DRY DOCK AT ESQUIMALT, B.C.

No. 9.—STATEMENT of Dues and other charges collected during the year ending March 31, 1913.

| Name of Vessel Docked. | Tonnage. | Period of Dockage. From | Period of Dockage. To | Dockage Charges. | Other Charges. | Total. |
|---|---|---|---|---|---|---|
| | | 1912. | 1912. | $ cts. | $ cts. | $ cts. |
| D.G.S. 'Lilloet' | 591 | March 25 | April 2 | 600 00 | 2 40 | 602 40 |
| SS. 'Prince Rupert' | 3,379 | April 11 | May 1 | 2,436 00 | 57 80 | 2,493 80 |
| D.G.S. 'Quadra' | 573 | May 3 | " 10 | 550 00 | ..... | Unpaid. |
| SS. 'Christian Bors' | 4,306 | " 17 | " 18 | 200 00 | ..... | 200 00 |
| " 'Beckenham' | 4,566 | June 20 | June 22 | 532 00 | 1 80 | 533 80 |
| " 'Princess Charlotte' | 3,844 | July 30 | Aug. 1 | 392 20 | 22 80 | 415 00 |
| " " " | 3,844 | Sept. 3 | Sept. 4 | 392 20 | 18 60 | 410 80 |
| H.M.S. 'Algerine' | 1,100 | October 2 | Oct. 12 | 443 15 | ..... | 443 15 |
| " 'Shearwater' | 980 | " 14 | " 19 | 254 54 | ..... | 254 54 |
| SS. 'Lonsdale' | 3,171 | Dec. 1 | Dec. 2 | 358 55 | ..... | 358 55 |
| Sp. Co. 'Linlithgow' | 2,202 | " 4 | " 7 | 652 12 | 4 20 | 656 32 |
| | | | 1913. | | | |
| SS. 'Strathlorne' | 4,330 | Dec. 30 | Jan. 1 | 416 50 | 1 20 | 417 70 |
| | | 1913. | | | | |
| SS. 'Princess Victoria" | 1,943 | Feb. 18 | Feb. 19 | 200 00 | 10 80 | 210 80 |
| " 'Prince George' | 3,372 | " 24 | " 25 | 368 60 | 1 80 | 370 40 |
| D.G.S. 'Lilloet' | 591 | March 5 | March 12 | 600 00 | 6 60 | 606 60 |
| SS. 'Princess Alice' | 3,099 | " 13 | " 14 | 354 00 | 2 75 | 356 75 |
| " 'Roma' | 2,939 | " 15 | " 20 | 796 00 | 51 00 | 847 00 |
| " 'Prince Rupert' | 3,379 | " 21 | " 22 | 368 95 | 17 40 | 386 35 |
| | 48,209 | | | 9,914 81 | 199 15 | 9,563 96 |

EDW. T. SMITH,
*Collector of Public Works Revenue.*

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, July 7, 1913.

SESSIONAL PAPER No. 19

## THE DRY DOCK AT LEVIS, QUE.

No. 10.—STATEMENT of Dues and other charges collected during the year ended March 31, 1913.

| Name of Vessel Docked. | Tonnage. | Period of Dockage. From | Period of Dockage. To | Dockage Charges. | Other Charges. | Total. |
|---|---|---|---|---|---|---|
| | | 1912 | 1912 | $ cts. | $ cts. | $ cts. |
| SS. 'Sokota' | | Entry Fee. | | 200 00 | | 200 00 |
| " 'Rapids King' | | Wintering. | | 800 00 | | 800 00 |
| " 'Rapids Queen' | | " | | 600 00 | | 600 00 |
| " 'Sokota' | 3,092 | May 6 | May 9 | 468 40 | | 468 40 |
| " 'Turret Bell' | | Entry Fee. | | 200 00 | | 200 00 |
| " 'Bornu' | | " | | 200 00 | | 200 00 |
| Dredge 'Restigouche' | | Wintering. | | 400 00 | 112 80 | 512 80 |
| " 'Ottawa' | | " | | 400 00 | 78 38 | 478 38 |
| SS. 'La Canadienne' | | " | | 400 00 | | 400 00 |
| " 'Cartier' | 632 | May 6 | May 9 | 250 00 | | 250 00 |
| Dredge 'No. 7' | 600 | " 11 | " 16 | 500 00 | | 500 00 |
| SS. 'Earl Grey' | 2,357 | " 20 | July 6 | 4,868 44 | 12 00 | 4,880 44 |
| " 'Montcalm' | 1,432 | " 20 | " 6 | 3,314 24 | 9 00 | 3,323 24 |
| " 'Turret Bell' | 2,211 | July 8 | Sept. 17 | 6,745 40 | 13 25 | 6,758 65 |
| Bge. 'Eastwood' | 1,530 | Sept. 20 | " 24 | 625 40 | | 625 40 |
| SS. 'Casapedia' | | Entry Fee. | | 200 00 | | 200 00 |
| Bge. 'Zapotic' | 800 | Oct. 7 | Oct. 16 | 700 00 | | 700 00 |
| SS. 'Bengore Head' | 2,490 | " 21 | " 25 | 799 20 | 3 00 | 802 20 |
| Stm. Bg 'Omaha' | | Entry Fee. | | 200 00 | | 200 00 |
| SS. 'Bellona' | | " | | 200 00 | | 200 00 |
| " 'Lady Grey' | 723 | Sept. 20 | Sept. 24 | 200 00 | | 200 00 |
| Dom. Dredging Co | | | | | 2 00 | 2 00 |
| Stm. Bge 'Omaha' | 2,131 | Oct. 29 | Nov. 2 | 427 86 | | 427 86 |
| SS. 'Gladstone' | 4,927 | Nov. 18 | " 23 | 994 16 | 4 50 | 998 66 |
| T. S. Tierney | | | | | 1 00 | 1 00 |
| Dredge 'Beaujeu' | 2,046 | Sept. 26 | Oct. 3 | 1,030 00 | 6 44 | 1,036 44 |
| SS. 'Bellona' | 2,932 | Nov. 26 | Dec. 14 | 2,046 88 | 47 00 | |
| Do | | 4 days' penalty. | | 800 00 | | 2,893 88 |
| " 'Lord Strathcona' | | Entry Fee. | | 200 00 | | 200 00 |
| Dredge 'Galveston' | 1,271 | Oct. 29 | Nov. 2 | 254 20 | 50 00 | 304 20 |
| | 29,174 | | | 28,024 18 | 339 37 | 28,363 55 |

NOTE.—Commercial Vessels ..... $16,278 05
Can. Government Vessels ..... 12,085 50

$28,363 55

EDW. T. SMITH,
*Collector of Public Works Revenue.*

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, July 7, 1913.

No. 11.—Hydraulic and other Rents, &c.,

| Balance due April 1, 1912. | Rents accrued up to March 31, 1913. | Total. | Location. | Occupant. |
|---|---|---|---|---|
| $ cts. | $ cts. | $ cts. | | |
| | 200 00 | 200 00 | Ottawa River | Royal Trust Co. |
| | 100 00 | 100 00 | " | " |
| | 300 00 | 300 00 | " | " |
| | 100 00 | 100 00 | " | " |
| | 100 00 | 100 00 | " | " |
| | 300 00 | 300 00 | " | " |
| | 400 00 | 400 00 | " | " |
| | 300 00 | 300 00 | " | " |
| 50 00 | 100 00 | 150 00 | " | Ottawa Electric Railway Co. |
| | 600 00 | 600 00 | " | The Ottawa Power Co. |
| 400 00 | 200 00 | 600 00 | " | Royal Trust Co., (in abeyance) |
| | 208 00 | 208 00 | " | J. R. Booth |
| | 10 00 | 10 00 | " | Royal Trust Co. |
| | 100 00 | 100 00 | " | " |
| | 96 00 | 96 00 | " | " |
| 136 00 | ..... | 136 00 | " | Mary Conroy |
| 570 84 | ..... | 570 84 | " | Royal Trust Co. |
| | 25 00 | 25 00 | " | " |
| 200 00 | ..... | 200 00 | " | Merchants Bank of Canada |
| 96 00 | ..... | 96 00 | " | " " |
| 1 00 | 1 00 | 2 00 | " | Ottawa Electric Co |
| 380 00 | .... .... | 380 00 | " | John Rankin |
| | | | " | J. R. Booth, (lease expired) |
| 5 00 | 5 00 | 10 00 | " | Ottawa Electric Co. |
| | 50 00 | 50 00 | " | Royal Trust Co. |
| 1 00 | 1 00 | 2 00 | " | Alfred Desjardins |
| | 100 00 | 100 00 | " | Royal Trust Co. |
| | 10 00 | 10 00 | " | Ottawa Electric Co. |
| | 1 00 | 1 00 | St. Lawrence | Quebec Harbour Commissioners |
| 275 00 | .... | 275 00 | " | Richelieu & Ontario Navigation Co. |
| | 1 00 | 1 00 | Quebec | Corporation of Quebec |
| | 1 00 | 1 00 | " | Narcisse Blais |
| | 1 00 | 1 00 | Rondeau Harbour | School Trustees |
| | 1 00 | 1 00 | Collingwood | Great Northern Transit Co |
| 8 00 | 1 00 | 9 00 | Ottawa | E. Laverdure |
| | 100 00 | 100 00 | Three Rivers | Union Bag & Paper Co. |
| | 1 00 | 1 00 | " | Corporation of Three Rivers |
| 165 00 | ..... | 165 00 | British Columbia | A. Peel |
| 90 00 | ..... | 90 00 | " | Jonathan Maury |
| | 12 50 | 12 50 | " | Lemon Gonnason Co. |
| | 12 50 | 12 50 | " | Taylor John |
| 25 00 | 25 00 | 50 00 | " | Joseph Spratt |
| | 12 00 | 12 00 | " | D. W. Gordon |
| | 5 00 | 5 00 | " | Geo. A. Huff |
| 70 00 | ..... | 70 00 | R. du Lièvre | Dominion Phosphate Co. |
| 1 00 | ..... | 1 00 | Charlottetown | Rt. Rev. Bishop McIntyre |
| | 16 00 | 16 00 | Antigonish, N.S. | Burnham Morrill & Co |
| 1 00 | 1 00 | 2 00 | Owen Sound | G. T. Railway |
| 240 00 | ..... | 240 00 | Windsor | Archie McNee |
| 15 00 | 5 00 | 20 00 | Bayfield, N.S. | Chas. L. Gass |
| | 1 00 | 1 00 | " | " |
| | 5 00 | 5 00 | Village of Brook | Wm. Pedwell |
| | 1 00 | 1 00 | Walkerton, Ont. | D. Robertson and J. Rowland |
| | 1 00 | 1 00 | British Columbia | Canadian Pacific Ry. Co. |
| | 1 00 | 1 00 | Levis, Ont. | Cyrille Robitaille |
| 2,728 84 | 3,512 00 | 6,240 84 | | |

Department of Public Works,
Ottawa, July 7, 1913.

Lessees' Accounts for the year ended March 31, 1913.

| Description of Property. | Date to which account is made up. | Paid during the Year. | Balance due on March 31, 1913. | Total. |
|---|---|---|---|---|
| | | $ cts | $ cts. | $ cts. |
| Lots B and C, Chaudière st., service ground | Dec. 31, 1912. | 200 00 | | 200 00 |
| Lot D | " | 100 00 | | 100 00 |
| Lots H, I, J, grist-mill, North Head st | " | 300 00 | | 300 00 |
| Lot K, fanning-mill, South Head st | " | 100 00 | | 100 00 |
| Lot L, service ground | " | 100 00 | | 100 00 |
| Lots Q, R, T, service ground, North Middle st | " | 300 00 | | 300 00 |
| Lots M, N, O, P, (no water) | " | 400 00 | | 400 00 |
| Lots E, F and G, South Head st | " | 300 00 | | 300 00 |
| Lot S, service ground | " | 150 00 | | 150 00 |
| Lots U, V, W, X, Y and Z, service ground | " | 600 00 | | 600 00 |
| Two strips of land, (in abeyance) | " | | 600 00 | 600 00 |
| Portion Government Reserve, head of slide | Sept. 20, 1913. | 208 00 | | 208 00 |
| Bridge over slide | June 30, 1913. | 10 00 | | 10 00 |
| Strip of land, Amelia island | Dec. 31, 1913. | 100 00 | | 100 0 |
| Reserve Head of Chaudière island | Jan. 1, 1914. | 96 00 | | 96 00 |
| Small island on Deschesne rapids | Jan. 1, 1912. | | 136 00 | 136 00 |
| Portion lot 39, con. A, Nepean | Jan. 31, 1884. | | 570 84 | 570 84 |
| Excavated channel, slide and two dams, Little Chaudière | Mar. 1, 1914. | | 25 00 | 25 00 |
| Water lot opposite lot 30, con. A, Nepean | | | 200 00 | 200 00 |
| Three small islands, Ottawa river | | | 96 00 | 96 00 |
| Covering over portion of Ottawa slides | Dec. 30, 1912. | 2 00 | | 2 00 |
| East portion, Hawley island | June 20, 1891 | | 380 00 | 380 00 |
| Piece of land, southwest end, Union bridge | | | | |
| Piece of land, Victoria island | May 11, 1913. | 5 00 | 5 00 | 10 00 |
| Land, south side, Middle st., Victoria island | Aug. 31, 1913. | 50 00 | | 50 00 |
| Land, Longue Pointe Rouge, Templeton Co., Ottawa | Oct. 4, 1913. | 2 00 | | 2 00 |
| Southwest of lot No. 1, Amelia island | Oct. 9, 1912. | 100 00 | | 100 00 |
| Lot Pa, south Head st | Jan. 10, 1914. | | 10 00 | 10 00 |
| Lot near custom-house, Quebec | Aug. 31, 1913. | 1 00 | | 1 00 |
| Roadway from pier at Coteau Landing | July 1, 1909. | | 275 00 | 275 00 |
| Old Provincial Government building and grounds | June 24, 1913. | | 1 00 | 1 00 |
| Privilege to erect bridge on St. Charles river | Feb. 6, 1914. | | 1 00 | 1 00 |
| Log building, former custom-house, Shrewsbury, Ont. | Sept. 11, 1912. | 1 00 | | 1 00 |
| Use of breakwater to store coal | Jan. 1, 1914. | 1 00 | | 1 00 |
| S. E., half of lot 8, Ottawa | Dec. 18, 1913. | | 9 00 | 9 00 |
| Land, île St. Christophe, river St. Maurice | Dec. 1, 1913. | 100 00 | | 100 00 |
| " " " | July 1, 1912. | 1 00 | | 1 00 |
| Portion of Assay Office, New Westminster | | | 165 00 | 165 00 |
| " " " | | | 90 00 | 90 00 |
| Permit for bulkhead, Victoria harbour | June 1, 1913. | 12 50 | | 12 50 |
| " " " | " | 12 50 | | 12 50 |
| Privilege to build wharf on lots A and C | " | 50 00 | | 50 00 |
| Beach lots A, C, E, F, front of 7, 8, 9, Nanaimo harbour | Aug. 27, 1913. | | 12 00 | 12 00 |
| Permit to build wharf, lot A, block 2, Sumas river | Aug. 13, 1913. | 5 00 | | 5 00 |
| Permit for landing at Little Rapids, R du Lièvre | | | 70 00 | 70 00 |
| Leave to drain to main service public building | | | 1 00 | 1 00 |
| Tract of land aud water lot McNair's cove | Dec. 31, 1913 | 16 00 | | 16 00 |
| Land, west side of Sydenham river | " | | 2 00 | 2 00 |
| Lot on Ouellette st., Windsor, Ont | | | 240 00 | 240 00 |
| Water lot | Dec, 8, 1913. | | 20 00 | 20 00 |
| " | June 9, 1913. | | 1 00 | 1 00 |
| " | Mar. 31, 1913. | 5 00 | | 5 00 |
| Right of way over strip of land | April 26, 1912. | | 1 00 | 1 00 |
| Part custom-house lot, New Westminster | April 14, 1914. | | 1 00 | 1 00 |
| Ground rent | April 4, 1914. | 1 00 | | 1 00 |
| | | 3,329 00 | 2,911 84 | 6,240 84 |

EDW. T. SMITH,
*Collector of Public Works Revenue.*

DR. No. 12.—HYDRAULIC and other Rents, &c.—

| Balances due on April, 1913. | Totals. | Number. | Location. | Name of Proprietors. |
|---|---|---|---|---|
| $ cts. | $ cts. | | | *Land Sales—Principal Account.* |
| 12,092 83 | 12,092 83 | 1 | Hamilton and Port Dover road | Choat and Kern |
| 433 34 | 433 34 | 2 | Bonner's property, Quebec | Timothy Sullivan, now M. Murphy. |
| 333 34 | 333 34 | 3 | | John Bailey, now Alex. Powell |
| 300 00 | 300 00 | 4 | | Abraham Thompson |
| 147 80 | 147 80 | 5 | | John Boomer |
| 248 40 | 248 40 | 6 | | John Garbatz, now J. C. Nolan |
| 154 80 | 154 80 | 7 | | N. H. Bowen |
| 600 00 | 600 00 | 8 | | Estate Robert Reid |
| 333 33 | 333 33 | 9 | | John Chevalier |
| 533 33 | 533 33 | 10 | | Daniel Holden |
| 333 33 | 333 33 | 11 | | George Creeley |
| 63 00 | 63 00 | 12 | | Thomas McAdam |
| 15,573 50 | 15,573 50 | | | |
| | | | | *Land Sales—Interest Account.* |
| 6,298 25 | 6,298 25 | 1 | Hamilton and Port Dover road | Choat and Kern (matured) |
| 558 00 | 558 00 | 2 | Bonner's property, Quebec | Timothy Sullivan, now M. Murphy. |
| 120 00 | 120 00 | 3 | | John Bailey, now Alex. Powell |
| 306 00 | 306 00 | 4 | | Abraham Thompson |
| 155 22 | 155 22 | 5 | | John Boomer |
| 275 82 | 275 82 | 6 | | John Garbatz, now J. C. Nolan |
| 208 95 | 208 95 | 7 | | N. H. Bowen |
| 828 00 | 828 00 | 8 | | Estate Robert Reid |
| 190 00 | 190 00 | 9 | | John Chevalier |
| 298 68 | 298 68 | 10 | | Daniel Holden |
| 35 91 | 35 91 | 11 | | George Creeley |
| 100 00 | 100 00 | 12 | | Thomas McAdam |
| 100 00 | 100 00 | 13 | | Joseph Brook, tenant |
| 9,474 83 | 9,474 83 | | | |

DEPARTMENT OF PUBLIC WORKS,
OTTAWA, July 7, 1913.

SESSIONAL PAPER No. 19

—Lessees' Accounts, 1912-1913—*Concluded.* Cr.

| Description of Property. | Number. | Date to which the account is made up. | Balances transferred to Public Works Department by O.C. of April 25, 1909. | Totals. |
|---|---|---|---|---|
| | | | $ cts | $ cts |
| Hamilton and Port Dover and Caledonia Bridge | 1 | | 12,092 83 | 12,092 83 |
| Lot No. 1, Wolfe street | 2 | | 433 34 | 433 34 |
| " 9 " | 3 | | 333 34 | 333 34 |
| " 49 " | 4 | | 300 00 | 300 00 |
| " 73 and 74, Tower street | 5 | | 147 80 | 147 80 |
| 64, Wolfe street, and 211 and 252 Ware street | 6 | | 248 40 | 248 40 |
| " 67 and 68, Monument street | 7 | | 154 80 | 154 80 |
| " 22 and 23, Wolfe street | 8 | | 600 00 | 600 00 |
| " 32, Wolfe street | 9 | | 333 33 | 333 33 |
| " 65 and 66, Wolfe street | 10 | | 533 33 | 533 33 |
| " 31 Wolfe street | 11 | | 333 33 | 333 33 |
| " 135, Church street | 12 | | 63 00 | 63 00 |
| | | | 15,573 50 | 15,573 50 |
| | 1 | June 30, 1874 | 6,298 25 | 6,298 25 |
| Lot No. 1, Wolfe street | 2 | May 1, 1889 | 558 00 | 558 00 |
| " 9 " | 3 | " | 120 00 | 120 00 |
| " 49 " | 4 | " | 306 00 | 306 00 |
| " 73 and 74, Tower street | 5 | " | 155 22 | 155 22 |
| " 64, Wolfe Street, and 211 and 252 Ware street | 6 | " | 275 82 | 275 82 |
| " 67 and 68, Monument street | 7 | " | 208 95 | 208 95 |
| " 22 and 23, Wolfe street | 8 | " | 828 00 | 828 00 |
| " 32, Wolfe street | 9 | Nov. 1, 1863 | 190 00 | 190 00 |
| " 65 and 66, Wolfe street | 10 | " | 298 68 | 298 68 |
| " 31, Wolfe street | 11 | " | 35 91 | 35 91 |
| " 135, Church street | 12 | " | 100 00 | 100 00 |
| Monument Hotel | 13 | " | 100 00 | 100 00 |
| | | | 9,474 83 | 9,474 83 |

EDW. T. SMITH,
*Collector of Public Works Revenue.*

DR. No. 13.—RENTS, &c., from Minor Public Works.

| Balance due on April 1st, 1912. | Accrued during the year ended March 31, 1913. | Total. | Occupant. | Description of Property. | Paid during the year ended March 31, 1913. | Balance due on March 31 1913. | Total. |
|---|---|---|---|---|---|---|---|
| $ cts. | $ cts. | $ cts. | | | $ cts. | $ cts. | $ cts. |
| 2,600 62 | ..... | 2,600 62 | R. Mundy..... | Dunnville bridge..... | ..... | 2,600 62 | 2,600 62 |
| 8,000 00 | ..... | 8,000 00 | Corporation Galt and Dundas..... | Dundas and Waterloo road..... | ..... | 8,000 00 | 8,000 00 |
| ..... | 1 00 | 1 00 | North American Telegraph Co..... | Govt. telegraph line between Bath and Amherst..... | 1 00 | ..... | 1 00 |
| ..... | 25 00 | 25 00 | Grand Trunk Railway Co..... | Wiarton docks..... | 25 00 | ..... | 25 00 |
| 43 75 | ..... | 43 75 | ..... | Part of building, Portland, N.B..... | ..... | 43 75 | 43 75 |
| 10,644 37 | 26 00 | 10,670 37 | | | 26 00 | 10,644 37 | 10,670 37 |

EDW. T. SMITH,
*Collector of Public Works Revenue.*

# PART VII

# MISCELLANEOUS

CONTRACTS LET BY THIS DEPARTMENT.

PROPERTY PURCHASED OR SOLD.

PROPERTY LEASED TO OR BY THE DEPARTMENT.

DIRECTOR'S REPORT, NATIONAL ART GALLERY.

NAMES OF CHIEF OFFICERS OF THE DEPARTMENT.

NAMES OF OFFICIALS EMPLOYED ON SLIDES AND BOOMS.

NAMES OF PERSONS EMPLOYED ON GRAVING DOCKS.

NAMES OF ENGINEERS, FIREMEN AND CARETAKERS OF PUBLIC BUILDINGS.

FOR THE

## FISCAL YEAR ENDED MARCH 31, 1913

Department of Public Works of Canada,

Law Clerk's Office,

Ottawa, August 1, 1913.

Sir,—I have the honour to transmit the following statements concerning the transactions of the department during the last fiscal year, with respect to contracts and property, and which are required for insertion in the annual report, 1912-13, viz.:—

No. 1.—Statement of contracts let by this department during the fiscal year ended March 31, past.

No. 2.—Statement of property purchased and sold by the department during the same period.

No. 3.—Statement of property leased to and by the said department during the same period.

No. 4.—A list of some of the Public Acts of the Parliament of Canada, passed at the last session, and Orders in Council having reference to the department.

I have the honour to be, sir,
Your obedient servant,

J. A. CHASSE,
*Law Clerk.*

R. C. Desrochers, Esq.,
Secretary of the Department of Public Works,
Ottawa, Ont.

# STATEMENT

SHOWING

1st.—CONTRACTS LET BY THE DEPARTMENT OF PUBLIC WORKS OF CANADA, FROM APRIL 1, 1912, TO MARCH 31, 1913.

2nd.—PROPERTY PURCHASED OR SOLD BY THE DEPARTMENT OF PUBLIC WORKS DURING THE FISCAL YEAR ENDED MARCH 31, 1913.

3rd.—PROPERTY LEASED TO AND BY THE DEPARTMENT OF PUBLIC WORKS DURING THE FISCAL YEAR ENDED MARCH 31, 1913.

No. 1.—Contracts let by the Department of Public Works of Canada, from April 1, 1912, to March 31, 1913.

| Works. | | | Names of Contractors. | Date of Contract. | Amount. |
|---|---|---|---|---|---|
| | | | | | $ cts. |
| Public Buildings. | | | | | |
| *Nova Scotia.* | | | | | |
| Amherst | Post Office | Supply of coal—Bit., per ton | Maritime Coal R. & P. Company | | 3 90 |
| Annapolis | " | " " | G. A. Hawkesworth | | 5 55 |
| Antigonish | " | " " | Acadia Coal Company | | 4 00 |
| Arichat | " | —Anth., nut, per ton | C. P. Terrio | | 8 75 |
| Baddeck | " | —Bit., per ton | A. G. McDonald | | 4 80 |
| Bridgewater | " | " " | Intercolonial Coal Mining Co. | | 4 80 |
| Canso | " | —Anth., egg, per ton | A. N. Whitman & Son | | 7 75 |
| " | " | " —Bit., per ton | A. N. Whitman & Son | | 5 50 |
| Dartmouth | " | " " | S. Cunard & Company | | 4 00 |
| Digby | " | " " | E. L. Fisher | | 4 90 |
| Glace Bay | " | " " | L. D. Currie | | 3 70 |
| Guysborough | " | " " | Angus McDonald | | 7 00 |
| Halifax | " | " " | S. Cunard & Company | | 4 00 |
| " | New Custom House | " " | S. Cunard & Company | | 4 00 |
| " | Immigration Building | " " | H. D. MacKenzie & Company | | 4 00 |
| " | Detention Hospital | " " | Acadia Coal Company | | 4 00 |
| Inverness | Post Office | " " | Inverness Ry. & Coal Company | | 3 40 |
| Kentville | " &c. | " " | Minudie Coal Company | | 5 40 |
| " | " | " —Anth., per ton | C. L. Dodge | | 9 50 |
| Liverpool | " | " —Bit., per ton | F. W. Hatt | | 4 50 |
| Lunenburg | " | " —Anth., nut, per ton | A. & H. Anderson | | 9 00 |
| " | " | " —Anth., furn., per ton | A. & H. Anderson | | 9 00 |
| New Glasgow | " | " —Bit., per ton | Acadia Coal Company | | 4 00 |
| North Sydney | " | " " | J. J. Dooley | | 3 50 |
| " | Immigration Office | " " | J. J. Dooley | | 3 50 |
| Parrsboro | Post Office | " " | W. J. Burn | | 4 40 |
| Pictou | Custom House | " " | Intercolonial Coal Mining Company | | 4 00 |
| " | Post Office | " " | Intercolonial Coal Mining Company | | 4 00 |
| Shelburne | " | " " | Jos. McGill | | 4 98 |
| " | " | " Anth., nut, per ton | Jos. McGill | | 7 75 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Springhill | " | " | Bit., per ton | Dominion Coal Company | | | 4 00 |
| Sydney | " | " | " | Dominion Coal Company | | | 3 50 |
| Sydney Mines | " | " | " | Hugh G. Campbell | | | 3 75 |
| Truro | " | " | " | J. H. Kent & Company | | | 4 40 |
| Westville | " | " | " | Intercolonial Coal Mining Company | | | 3 75 |
| Windsor | " | " | " | F. W. Dimock | | | 4 20 |
| Wolfville | " | " | " | R. E. Harris & Son | | | 5 25 |
| Yarmouth | " | " | Anth., egg, per ton | L. E. Baker & Company | | | 6 98 |
| *Prince Edward Island.* | | | | | | | |
| Charlottetown | Dominion Building | Supply of Coal— | Bit., per ton | G. E. Full | | | 4 70 |
| " | Old Bank Building | " | " | Lyons & Company | | | 4 40 |
| " | " | " | Grate, per ton | Lyons & Company | | | 4 40 |
| " | Experimental Farm | " | Anth., egg, per ton | Lyons & Company | | | 7 50 |
| " | " | " | Bit., per ton | Lyons & Company | | | 5 00 |
| Georgetown | Post Office | " | Anth., furn., per ton | Poole & Thompson | | | 7 75 |
| " | " | " | Bit., per ton | Poole & Thompson | | | 4 25 |
| " | " | " | Anth., nut, per ton | Poole & Thompson | | | 6 75 |
| Montague | " | " | Bit., per ton | Poole & Thompson | | | 4 25 |
| " | " | " | Anth., egg, per ton | Poole & Thompson | | | 6 75 |
| Souris | " | " | " | Lyons & Company | | | 8 40 |
| " | " | " | Anth., nut, per ton | Lyons & Company | | | 8 40 |
| Summerside | " | " | Anth., egg, per ton | R. T. Holman | | | 6 50 |
| " | " | " | Bit., per ton | R. T. Holman | | | 4 35 |
| *New Brunswick.* | | | | | | | |
| Bathurst | Post Office | Supply of coal— | Anth., egg, per ton | Rogers & Melvin | | | 10 00 |
| Campbellton | " | " | Bit., per ton | R. K. Shives | | | 5 25 |
| " | Public Building | Interior fittings | | Edward Bates | April 24, 1912 | | 2,300 00 |
| Chatham | Post Office | Supply of coal— | Bit., per ton | The Stothart Mercantile Co. Ltd | | | 5 25 |
| Dalhousie | " | " | Ant., fur., per ton | C. Powell | | | 9 25 |
| Fairville | " | " | Bit., per ton | C. E. Colwell | | | 5 00 |
| " | " | Fittings | | J. T. Schell Company | Aug. 19, 1912 | | 1,143 00 |
| Fredericton | " | Supply of coal— | Anth., egg, per ton | A. H. Vanwart | | | 8 50 |
| " | " | " | Ant., nut | A. H. Vanwart | | | 8 50 |
| Grand Falls | " | " | Bit., per ton | G. M. Taylor | | | 8 75 |
| " | Public Building | Interior fittings | | J. T. Schell Company | April 4, 1912 | | 1,715 00 |
| Hillsborough | Post Office | Fittings | | J. T. Schell Company | July 19, 1912 | | 1,041 00 |

No. 1. CONTRACTS let by the Department of Public Works of Canada, from April 1, 1912, to March 31, 1913 —*Continued.*

| Works. | | | | Names of Contractors. | Date of Contract. | Amount. |
|---|---|---|---|---|---|---|
| | | | | | | $ cts. |
| PUBLIC BUILDINGS. | | | | | | |
| *New Brunswick*—Con. | | | | | | |
| Marysville | Post Office | Supply of coal | Anth., stove, per ton | A. H. Vanwart | | 9 50 |
| Moncton | " | " | Bit., per ton | Minudie Coal Company | | 4 85 |
| Newcastle | " | " | " | The Stothart Mercantile Co. Ltd | | 5 25 |
| " | " | " | Anth., furn., per ton | The Stothart Mercantile Co. Ltd | | 7 25 |
| Richibucto | " | " | Anth., egg, per ton | W. E. Forbes | | 8 20 |
| " | " | " | Anth., nut, per ton | W. E. Forbes | | 8 20 |
| St. John | " | " | Anth., furn., per ton | R. P. and W. F. Starr | | 7 25 |
| " | " | " | Anth., stove, per ton | R. P. and W. F. Starr | | 7 60 |
| " | " | " | Bit., per ton | R. P. and W. F. Starr | | 4 00 |
| " | Custom House | " | Anth., furn., per ton | R. P. and W. F. Starr | | 7 25 |
| " | " | " | Bit., per ton | R. P. and W. F. Starr | | 4 00 |
| " | Immigration Building | " | Bit., per ton | R. P. and W. F. Starr | | 4 00 |
| " | Custom House | " | Anth., nut, per ton | J. S. Gibbon and Company | | 9 00 |
| " | Savings Bank | " | Anth., egg, per ton | J. S. Gibbon and Company | | 7 25 |
| " | " | " | Anth., nut, per ton | J. S. Gibbon and Company | | 7 50 |
| " | Immigration Building | " | Anth., furn., per ton | J. S. McGivern | | 8 00 |
| " | " | " | Anth., nut, per ton | J. S. McGivern | | 8 25 |
| " | Quarantine Station | Construction of two houses for boatman and assistant caretaker | | John A. Adams | Dec. 21, 1912 | 8,450 00 |
| " | Quarantine Station | Construction of residence for Bacteriologist | | J. E. Kane and W. T. Ring | Dec. 21, 1912 | 8,392 00 |
| " | Quarantine Station | Construction of laboratory building | | J. E. Kane and W. T. Ring | Dec. 21, 1912 | 5,950 00 |

| | | | | | |
|---|---|---|---|---|---|
| " | Post Office Building | Construction of | Rhodes, Curry Co., Ltd | Feb. 3, 1913 | 381,850 00 |
| St. John, West | Post Office | Supply of coal—Anth., stove, per ton | C. E. Colwell | | 7 50 |
| St. Stephen | " | " " | W. C. Purvis | | 7 50 |
| Sussex | " | " Anth., egg, per ton | T. B. Brown | | 8 75 |
| " | " | " Anth., nut, per ton | T. B. Brown | | 8 75 |
| Tracadie | Lazaretto | " Anth., egg, per ton | The Stothart Mercantile Co. Ltd | | 9 25 |
| " | " | " Bit., per ton | The Stothart Mercantile Co. Ltd | | 7 25 |
| " | " | Construction of residence for resident doctor | George Eddy Co., Ltd | Oct. 15, 1912 | 7,000 |
| Woodstock | Post Office | Supply of coal—Anth., furn., per ton | H. E. Burtt | | 9 00 |
| | | *Quebec.* | | | |
| Actonvale | Post Office | Supply of coal—Anth., per ton | V. J. Mongeau | | 9 25 |
| Arthabaska | " | " Anth., egg, per ton | J. B. Oullet | | 10 25 |
| Arthabaska | " | Fittings | Paquet and Godbout | May 1, 1912 | 970 00 |
| Aylmer | " | Supply of coal—Anth., egg, per ton | Aylmer Coal and Supply Co. Ltd | | 7 50 |
| " | " | " Anth., nut, per ton | Aylmer Coal and Supply Co. Ltd | | 7 75 |
| Berthierville | " | " Anth., stove, per ton | F. O. Lamarche | | 8 75 |
| Buckingham | Public Building | " Anth., furn., per ton | The Traders Company | | 7 75 |
| Chicoutimi | " | " Anth., egg, per ton | Cote, Boivin & Cie, Incorp. | | 9 00 |
| Coaticook | Post Office, etc | " " | H. C. Webster & Son | | 7 40 |
| " | " | " Anth., nut, per ton | H. C. Webster & Son | | 7 40 |
| Cookshire | " | " | E. J. Planche & Co | | 8 50 |
| Drummondville | " | " Anth., stove, per ton | Ephrem Archambault | | 8 50 |
| Dundee | Custom House | " " | Allen S. Matthews | | 7 00 |
| Farnham | Post Office | " Anth., egg, per ton | A. B. Comeau | | 7 75 |
| Fraserville | " | " " | Chas. Art. Boulanger | | 8 75 |
| Granby | " | " " | Phoenix and Vandal | | 7 25 |
| Grosse-Isle | Quar. Station Laboratory Building | Construction of | The Mount Royal Construction Ltd | May 28, 1912 | 4,240 00 |
| " | Quar. Station, Nurses' Cottage | Construction of | The Mount Royal Construction Ltd | May 28, 1912 | 5,760 00 |
| " | Quar. Station, First Class Detention Building | Construction of | Joseph Gosselin | June 20, 1912 | 24,500 00 |
| Hochelaga | Post Office | Supply of coal—Anth., egg, per ton | Geo. Hall Coal Co., Ltd | | 7 50 |

No. 1. CONTRACTS let by the Department of Public Works of Canada, from April 1, 1912, to March 31, 1913 *Continued.*

| Works. | | | | | Names of Contractors. | Date of Contract. | Amount. |
|---|---|---|---|---|---|---|---|
| | | | | | | | $ cts. |
| PUBLIC BUILDINGS—*Continued.* | | | | | | | |
| QUEBEC.—*Con.* | | | | | | | |
| Hochelaga | Post Office | | Supply of coal | Anth., nut, per ton | Geo. Hall Coal Co. Ltd | | 7 75 |
| Hull | " | | " | Anth., egg, per ton | Hull Coal Company | | 7 40 |
| Iberville | " | | " | Anth., furn., per ton | John Donaghy | | 6 35 |
| Joliette | " | etc | " | Anth., egg, per ton | Georges Cartier | | 6 65 |
| Knowlton | " | | " | Anth., furn., per ton | L. H. Pibus | | 8 00 |
| Lachine | " | | " | Anth., stove, per ton | Martin Cie, Ltee | | 7 25 |
| " | " | | Alterations to | | François Delresne | Oct. 5, 1912 | 3,450 00 |
| Lachute | " | | Supply of coal | Anth., furn., per ton | J. D. Campbell | | 8 00 |
| Laprairie | " | | " | Anth., stove, per ton | Emery Brossard | | 8 00 |
| " | " | | " | Anth., nut, per ton | Emery Brossard | | 8 00 |
| L'Assomption | " | | " | Anth., egg, per ton | Claus. Courtois | | 8 15 |
| Levis | " | | " | Anth., egg, per ton | J. T. Fournier | | 7 90 |
| Longueuil | " | | " | Anth., egg, per ton | C. F. Dennincourt | | 7 00 |
| Magog | " | | " | Anth., furn., per ton | E. B. Mullin | | 7 20 |
| Marieville | " | and Customs | Fittings | | J. T. Schell Company | April 15, 1912 | 1,445 00 |
| " | " | | Supply of coal | Anth., stove, per ton | W. E. Poulin | | 7 25 |
| " | " | | " | Anth, nut, per ton | W. E. Poulin | | 7 50 |
| Megantic | " | | " | Anth., egg, per ton | Cie d'Eclairage du Lac Megantic | | 9 00 |
| " | " | | Interior Fittings | | Paquet and Godbout | April 16, 1912 | 1,114 00 |
| Montmagny | " | | " | Anth., egg, per ton | F. Boulanger | | 11 00 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Montreal | Examining Warehouse | Construction of | P. Lyall and Sons Construction Co. Ltd. | Oct. 15, 1912 | | 999,000 00 |
| " | Addition to Customs Express Warehouse | | Antoine Kelly | Oct. 24, 1912 | | 6,391 00 |
| " | Detention Hospital | Construction of | C. E. Deakin | Jan. 3, 1913 | | 75,400 00 |
| " | Inland Revenue Building | Electric lighting service, per kil. hour | Montreal Light, Heat & Power Co | Feb. 2, 1913 | 5 years | 0 06 |
| " | District Engineer's Office | Metallic Fittings for | EclipseManufacturing Co., Ltd | Feb. 14, 1913 | | 974 00 |
| " | Custom House | Supply of coal Anth., furn. per ton | Geo. Hall Coal Co. Ltd | | | 7 25 |
| " | " | " Anth., furn., per ton | The Merchants Coal Co. Ltd | | | 7 25 |
| " | " | " Anth., furn., per ton | Andrew Baile | | | 7 25 |
| " | Examining Warehouse | " Bit., per ton | Geo. Hall Coal Co. Ltd | | | 4 00 |
| " | Express Office | " Anth., egg, per ton | J. O. Labrecque & Co. | | | 7 25 |
| " | Post Office Station 'B' | " Anth., egg, per ton | Farquhar Robertson Ltd | | | 7 75 |
| " | " 'C' | " Anth., egg, per ton | J. O. Labrecque & Company | | | 7 25 |
| " | " 'D' | " Anth., egg, per ton | J. O. Labrecque & Company | | | 7 25 |
| " | Revenue Building | " Anth., egg, per ton | J. O. Labrecque & Company | | | 7 25 |
| " | Immigration Building | " Anth., stove, per ton | J. O. Labrecque & Company | | | 7 25 |
| " | " | " Anth., egg, per ton | J. O. Labrecque & Company | | | 7 25 |
| Nicolet | Post Office | " Anth., egg, per ton | Julien Courteau | | | 7 50 |
| Pierreville | " | " Anth., stove, per ton | Shooner & Company | | | 7 40 |
| " | " | " Anth., egg, per ton | Shooner & Company | | | 7 40 |
| Plessisville | " | " Anth., furn., per ton | La Fonderie de Plessisville | | | 9 50 |
| Quebec | Culler's Office | " Anth., furn., per ton | The Canadian Import Co | | | 7 95 |
| " | Custom-house | " Anth. furn., per ton | The Canadian Import Co | | | 7 95 |
| " | Marine Agency | " Anth., furn., per ton | The Canadian Import Company | | | 8 05 |
| " | " | " Anth., stove, per ton | The Canadian Import Company | | | 8 05 |
| " | Examining Warehouse | " Anth., furn., per ton | The Canadian Import Company | | | 7 95 |
| " | Immigration Building | " Anth., egg, per ton | The Canadian Import Company | | | 8 05 |
| " | " | " Anth., stove, per ton | The Canadian Import Company | | | 8 05 |

No. 1.—Contracts let by the Department of Public Works of Canada, from April 1, 1912, to March 31, 1913—*Continued.*

| Works. | | | Names of Contractors. | Date of Contract. | Amount. |
|---|---|---|---|---|---|
| | | | | | $ cts. |
| Public Buildings | | | | | |
| *Quebec*—Con. | | | | | |
| Quebec | Immigration Hospital | Supply of coal—Anth., egg, per ton | The Canadian Import Company | | 8 35 |
| " | " | " Anth., stove, per ton | The Canadian Import Company | | 8 35 |
| " | Post Office | " Anth., furn., per ton | The Canadian Import Company | | 8 00 |
| " | " | " Anth., nut, per ton | The Canadian Import Company | | 8 00 |
| " | Governor General's Quarters | " Anth., furn., per ton | The Canadian Import Company | | 8 35 |
| " | " " " | " Anth., stove, per ton | The Canadian Import Company | | 8 35 |
| " | Weights and Measures Office | " Anth., egg, per ton | The Canadian Import Company | | 7 95 |
| " (St. Roch) | Post Office | " Anth., furn., per ton | The Canadian Import Company | | 7 95 |
| " | " | Addition and alterations to | Louis Boivin | March 3, 1913 | 385,000 00 |
| Richmond | " | Supply of coal—Anth., egg, per ton | S. E. Desmarais & Company | | 6 80 |
| Rigaud | " | " Anth., egg, per ton | Chevrier Freres | | 8 00 |
| " | " | Fittings | J. T. Schell Company | Sept. 5, 1912 | 1,487 00 |
| Rimouski | " | Supply of coal—Anth., egg, per ton | H. G. Lepage | | 8 60 |
| Roberval | " | " Anth., egg, per ton | Cote, Boivin & Company | | 9 00 |
| Rock Island | " | Fittings | J. T. Schell Company | Jan. 2, 1913 | 1,885 00 |
| Shawinigan Falls | " | Supply of coal—Anth., egg, per ton | C. H. Flamand | | 8 00 |
| Sherbrooke | " | " Anth., egg, per ton | La Cie Coderre | | 6 85 |
| Sorel | " | " Anth., egg, per ton | J. B. Gagne & Fils | | 7 75 |
| St. Henri (Montreal) | " | " Anth., egg, per ton | Geo. Hall Coal Co., Ltd. | | 7 50 |

| | | | | | | |
|---|---|---|---|---|---|---|
| St. Hyacinthe | " | " | Anth., egg, per ton | Demers and Cooney | | 7 25 |
| " Inland Revenue | " | " | Anth., egg, per ton | Demers and Cooney | | 7 25 |
| St. Jerome | Post Office | " | Anth., furn., per ton | Jos. Damase Fournelle | | 7 75 |
| St. Johns | Old Post Office | " | Anth., egg, per ton | John Donaghy | | 6 20 |
| " | New Post Office | " | Anth., egg, per ton | John Donaghy | | 6 20 |
| " | " | " | Anth., egg, per ton | John Donaghy | | 6 20 |
| St. Louis du Mile End | " | " | Anth., egg, per ton | Geo. Hall Coal Co. Ltd. | | 7 50 |
| Ste. Thèrese | Public Building | Construction of | | J. B. Lalonde and O. B. Lafleur & Fils | Feb. 4, 1913 | 18,450 00 |
| Terrebonne | Post Office | Supply of coal—Anth., egg, per ton | | Calixte Gauvreau | | 7 75 |
| Thetford Mines | " | " | Anth., egg, per ton | Alphonse Blais | | 7 75 |
| " | Public Building | Electric wiring and fittings | | The Sayer Electric Company | Nov. 29, 1912 | (or more) 1,022 65 |
| Three Rivers | Post Office | Supply of coal—Anth., egg, per ton | | Zephirin Marchand & Fils | | 7 00 |
| Valleyfield | " | " | Anth., egg, per ton | N. Langevin | | 7 25 |
| Victoriaville | " | " | Anth., egg, per ton | Octave Gaudet | | 8 00 |
| | | *Ontario.* | | | | |
| Alexandria | Post Office | Supply of coal—Anth., furn., per ton | | Angus McDonald | | 6 90 |
| Almonte | " | " | Anth., furn., per ton | T. R. White | | 6 90 |
| " | " | " | Anth., nut, per ton | T. R. White | | 7 35 |
| " | " | Clock tower to | | A. C. Gilmour | March 15, 1913 | 1,530 00 |
| Amherstburg | " | Supply of coal—Anth., furn., per ton | | Falls Bros. | | 7 25 |
| Arnprior | " | " | Anth., furn., per ton | R. S. Drysdale | | 7 75 |
| Athens | " | Interior Fittings | | J. T. Schell Co. | March 27, 1913 | 1,123 00 |
| Barrie | Public Building | Alterations and addition to | | W. A. Tom | Nov. 2, 1912 | 19,655 00 |
| " | Post Office | Supply of coal—Anth., egg, per ton | | The Sargeant Company | | 7 45 |
| Belleville | " | " | Anth., stove, per ton | N. Allen | | 6 93 |
| Bowmanville | " | " | Anth., stove, per ton | E. W. Loscombe | | 7 00 |

No. 1.—Contracts let by the Department of Public Works of Canada, from April 1, 1912, to March 31, 1913—*Continued.*

| Works. | | | Names of Contractors. | Date of Contract. | Amount. |
|---|---|---|---|---|---|
| | | | | | $ cts. |
| Public Buildings—*Con.* | | | | | |
| Ontario.—*Con.* | | | | | |
| Bowmanville | Post Office | Supply of coal—Anth., stove, per ton | E. W. Loscombe | | 7 25 |
| Brampton | " | " Anth., stove, per ton | Daniel Pratty | | 7 00 |
| Brantford | " | " Anth., egg, per ton | Wilson Coal Company | | 6 40 |
| " | " | " Anth., nut, per ton | Wilson Coal Company | | 6 40 |
| " | Public Building | Construction of | P. H. Secord & Sons Ltd | March 6, 1913 | 244,308 00 |
| Bridgeburg | Post Office | Supply of coal—Anth., furn., per ton | Mrs. Isaac White | | 6 50 |
| Brockville | " | " Anth., egg, per ton | W. B. Reynolds & Co. | | 7 25 |
| " | " | Alterations and additions to | F. W. Clow | Nov. 12, 1912 | 1,450 00 |
| Carleton Place | " | Clock tower to | Wm. Pattie | Dec. 13, 1912 | 1,485 00 |
| " | " | Supply of coal—Anth., furn., per ton | Taylor Bros. | | 7 48 |
| Chatham | " | " Anth., egg, per ton | A. R. Crowe | | 6 75 |
| Chesley | Public Building | Construction of | H. T. Gilpin and J. V. Gilpin | April 3, 1912 | 19,795 00 |
| Clinton | " | Supply of coal—Anth., furn., per ton | Arthur Forbes | | 7 50 |
| " | " | " Anth., nut, per ton | Arthur Forbes | | 7 75 |
| Cobourg | " | " Anth., furn., per ton | G. W. Plunkett | | 7 25 |
| Cornwall | " | " Anth., egg, per ton | A. F. Mulhern & Co. | | 6 93 |
| Deseronto | " | " Anth., furn., per ton | The Rathbun Co. | | 7 35 |
| Dresden | " | " Anth., egg, per ton | Garnet Wells | | 8 50 |
| " | " | " Anth., nut, per ton | Garnet Wells | | 9 00 |
| " | " | Fittings | The Oshawa Interior Fittings Co. | July 17, 1912 | 723 00 |
| Dundas | " | Supply of coal—Anth., nut, per ton | Woodhouse & Company | | 7 20 |

| | | | | | |
|---|---|---|---|---|---|
| " | Post Office and Customs | Fittings | The Berlin Interior Hardwood Co. Ltd | March 13, 1913 | 1,573 00 |
| Elora | Post Office | Supply of coal—Anth., stove per ton | C. Fisher | | 7 10 |
| Essex | " | " Anth., egg, per ton | J. A. Coulter | | 7 50 |
| " | " | " Anth., nut, per ton | J. A. Coulter | | 7 75 |
| " | " and Customs | Fittings | The Berlin Interior Hardwood Co. Ltd | June 17, 1912 | 1,240 00 |
| Fort William | Post Office | Supply of coal—Anth., furn., per ton | James Murphy | | 7 50 |
| Fergus | " | " Anth., stove, per ton | W. H. Pritchard | | 7 45 |
| Galt | " | " Anth., stove, per ton | J. D. Burns | | 6 89 |
| Gananoque | " | " Anth., stove, per ton | Taylor and Green C. & S. Company | | 6 95 |
| " | Custom House | " Anth., egg, per ton | Taylor and Green C. & S. Company | | 6 95 |
| " | " | " Bit., per ton | Taylor and Green C. & S. Company | | 4 85 |
| " | Public Building | Construction of | E. A. Bleakney | Aug. 23, 1912 | 29,973 00 |
| Glencoe | Post Office | Supply of coal—Anth., furn., per ton | Huston & Company | | 6 74 |
| " | " | " Anth., nut, per ton | Huston & Company | | 6 99 |
| Goderich | " | " Anth., egg, per ton | H. J. A. MacEwan | | 8 00 |
| " | " | " Anth., nut, per ton | H. J. A. MacEwan | | 8 25 |
| Grimsby | Public Building | Construction of | E. A. Bleakney | Jan. 9, 1913 | 19,973 00 |
| Guelph | Post Office | Supply of coal—Anth., egg, per ton | The Kloepfer Coal Company | | 6 88 |
| " | " | Fittings | J. T. Schell Company | July 19, 1912 | 1,109 00 |
| Hamilton | " | Supply of coal—Anth., furn., per ton | Thomas Myles & Son | | 6 23 |
| " | Examining Warehouse | " Anth., egg, per ton | Thomas Myles & Son | | 6 23 |
| " | Weights and Measures and Gas Office | " Anth., egg, per ton | Thomas Myles & Son | | 6 23 |
| Harriston | Post Office, etc | " Anth., nut, per ton | John Howes | | 9 00 |
| " | " | Interior fittings | J. T. Schell Company | April 25, 1913 | 1,213 00 |
| Hawkesbury | Post Office | Supply of coal—Anth., egg, per ton | F. H. Berchiaume | | 8 00 |
| Ingersoll | " | " Anth., egg, per ton | Scott and Daniels | | 7 75 |
| " | " | " Bit., per ton | Scott and Daniels | | 7 50 |
| Kemptville | Public Building | Construction of | The Dominion Concrete Co. Ltd | Aug. 21, 1912 | 18,000 00 |
| Kenora | Post Office | Supply of coal—Anth., furn., per ton | Windatt & Company | | 9 95 |

No. 1.—Contracts let by the Department of Public Works of Canada, from April 1, 1912, to March 31, 1913—*Continued.*

| Works. | | | Names of Contractors. | Date of Contract. | Amount. |
|---|---|---|---|---|---|
| | | | | | $ cts. |
| Public Buildings—*Continued.* | | | | | |
| *Ontario*—Con. | | | | | |
| Kincardine | Post Office | Supply of coal—Anth., furn., per ton | J. W. Wilson | | 7 20 |
| " | " | " Anth., nut, per ton | J. W. Wilson | | 7 40 |
| Kingston | " | " Anth., egg, per ton | S. Anglin & Co. | | 7 40 |
| " | " | " Anth., nut, per ton | S. Anglin & Co. | | 7 40 |
| " | Custom House | " Anth., egg, per ton | S. Anglin & Co. | | 7 40 |
| " | " | " Anth., nut, per ton | S. Anglin & Co. | | 7 40 |
| " | Inland Revenue | " Anth., egg, per ton | S. Anglin & Co. | | 7 40 |
| " | " | " Anth., nut, per ton | S. Anglin & Co. | | 7 40 |
| Leamington | Post Office | " Anth., furn., per ton | Ed. Smith | | 7 50 |
| Lindsay | " | " Anth., egg, per ton | The Baker Lumber Company | | 8 00 |
| " | " | " Anth., nut, per ton | The Baker Lumber Company | | 8 25 |
| " | " | " Anth., egg, per ton | Flavelles Ltd. | | 8 00 |
| " | " | " Anth., nut, per ton | Flavelles Ltd. | | 8 25 |
| Listowel | " | " Anth., egg, per ton | John C. Hay & Son | | 8 00 |
| " | " | " Anth., nut, per ton | John C. Hay & Son | | 8 25 |
| " | Post Office, Customs and Inland Revenue | Fittings | The Berlin Interior Hardwood Co. Ltd. | June 17, 1912 | 2,425 00 |
| London | Post Office | Supply of coal—Anth., furn., per ton | Chantler Bros. | | 6 90 |
| " | Custom House | " Anth., egg, | Chantler Bros. | | 6 90 |
| " | " | " Bit., per ton | Chantler Bros. | | 6 00 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Markham | Post Office | | " | Anth., stove, per ton | Robert Walsh | | | 7 30 |
| Midland | Public Building | Construction of | | | E. A. Bleakney | Jan. | 9, 1913 | 47,500 00 |
| Mitchell | Post Office | Supply of coal | | Ant., egg | M. C. Dale | | | 8 60 |
| " | " | " | " | Ant., nut | " | | | 8 25 |
| " | Public Building | Fittings | | | J. T. Schell Company | Oct. | 7, 1912 | 1,531 00 |
| Mount Forest | Post Office | Fittings | | | J. T. Schell Company | July | 19, 1912 | 985 00 |
| " | " | Supply of coal | | Ant., furnace | T. E. Tanugay | | | 8 00 |
| Napanee | " | | " | Anth., stove, per ton | P. Gleeson | | | 7 25 |
| " | " | | " | Anth., nut, per ton | P. Gleeson | | | 7 50 |
| Niagara Falls | " | | " | Anth., furn., per ton | J. E. Hutchings & Co | | | 5 66 |
| " | " | | " | Anth., nut, per ton | J. E. Hutchings & Co | | | 6 15 |
| " | Armoury Building | Works at grounds and Roadway | | | A. B. Robertson | Oct. | 9, 1912 | 4,680 00 |
| " | " | Fittings | | | A. B. Robertson | Nov. | 14, 1912 | 5,690 00 |
| North Bay | Post Office | Supply of coal | | Anth., egg, per ton | North Bay Fuel Company | | | 7 80 |
| Ontario | Post Offices Generally | Supply of sorting cases | | | J. T. Schell Company | July | 23, 1912 | 1,475 00 |
| " | " | " | " | " | The Berlin Interior Hardwood Co. Ltd | Aug. | 19, 1912 | 1,911 00 |
| " | " | " | " | " | J. T. Schell Company | Dec. | 18, 1912 | 2,991 00 |
| " | " | Supply of cases for letter delivery | | | The Burton & Baldwin Manufacturing Co. Ltd | Dec. | 19, 1912 | 620 00 |
| " | " | Supply of 500 cases for rural mail delivery | | | The Berlin Interior Hardwood Co. Ltd | Jan. | 6, 1913 | 16 50 per case. |
| Orangeville | Post Office | Supply of coal | | Anth., egg, per ton | C. C. G. Hannah | | | 7 25 |
| " | " | | " | Anth., nut, per ton | C. C. G. Hannah | | | 7 25 |
| Orillia | " | | " | Anth., egg, per ton | J. R. Eaton & Son | | | 7 65 |
| " | " | | " | Anth., nut, per ton | J. R. Eaton & Son | | | 7 90 |
| Oshawa | " | | " | Anth., stove, per ton | J. H. Downey & Co | | | 7 10 |
| " | " | | " | Anth., nut, per ton | J. H. Downey & Co | | | 7 10 |
| " | Public Building | Alterations and additions to | | | S. F. Whitman | Feb. | 20, 1913 | 5,194 00 |
| Ottawa | Experimental Farm | Supply of coal | | Anth., furn., per ton | The C. C. Ray Co | | | 7 20 |
| " | " | | " | Anth., egg, per ton | The C. C. Ray Co | | | 7 40 |
| " | " | | " | Anth., nut, per ton | The C. C. Ray Co | | | 7 60 |
| " | " | | " | Anth., stove, per ton | The C. C. Ray Co | | | 7 40 |

No. 1.- Contracts let by the Department of Public Works of Canada, from April 1, 1912, to March 31, 1913—*Continued.*

| Works. | | Names of Contractors. | Date of Contract. | Amount. |
|---|---|---|---|---|
| | Public Buildings—*Continued.* | | | |
| | *Ontario*—Con. | | | $ cts. |
| Ottawa | Museum Building—(Sussex St.) Supply of materials for electric light wiring, etc. | H. H. Bertschinger | April 3, 1912 | 5,063 40 |
| " | Victoria Memorial Museum.. Supply of 43 metal cases for | Library Bureau of Canada, Ltd. | April 19, 1912 | 20,780 04 |
| " | Public Buildings. Supply of Coal. | John Heney & Son Ltd.. | May 3, 1912 | Sched. of prices |
| " | Eastern Block Addition. Supply of materials for electric light wiring and fittings | W. R. McCallum | May 20, 1912 | 9,449 00 |
| " | Supply of 150 Cabinets for Departmental Buildings. Per Cabinet | Office Specialty Manufacturing Co. Ltd. | May 31, 1912 | 30 00 |
| " | Fuel Testing Building. Addition and alterations to | A. G. Marshall | June 27, 1912 | 28,100 00 |
| " | Rideau Hall Tennis Court Bld'g. Extension to | A. G. Marshall | June 27, 1912 | 7,625 00 |
| " | Public Buildings. Supply and delivery of coal | John Heney & Son, Ltd | June 29, 1912 | Sched: of prices. |
| " | Parliament Hill Grounds and Major's Hill Park. Supply of bulbs for spring planting of 1913 | Dupuis and Ferguson | Aug. 13, 1912 | Sched: of prices. |
| " | Eastern Block Addition. Vaults, vestibule linings, etc. | The Goldie & McCulloch Co. Ltd. | Aug. 30, 1912 | 85,736 00 |
| " | Victoria Memorial Museum.. Draughting room and metallic fittings | Office Specialty Manufacturing Co. Ltd. | Sept. 4, 1912 | 5,895 00 |
| " | Dept. of Mines—Geological Survey Branch. Metallic fittings for | Office Specialty Manufacturing Co. Ltd. | Sept. 6, 1912 | 4,692 00 |
| " | Eastern Block Addition. Boiler house | Doran and Devlin | Sept. 23, 1912 | 9,000 00 |
| " | Royal Observatory. Construction of Azimuth mark and Stellar Camera huts | A. G. Marshall | Sept. 23, 1912 | 11,600 00 |
| " | Major's Hill Park. Supply of material for electric light wiring | J. Geo. Gravelle & Co | Sept. 28, 1912 | 3,617 00 |
| " | Experimental Farm. Laboratory No. 1—Addition and alteration to | R. Taylor and J. Lackey | Nov. 12, 1912 | 12,860 00 |
| " | Public Buildings. Supply and delivery of ice to —per 100 pounds | George E. Kingsbury | Nov. 12, 1912 | 0 20 |
| Owen Sound. | Post Office. Supply of coal—Anth., egg, per ton. | Davis, Smith and Malone Co. | | 7 25 |
| Paris | Public Building. Alterations and additions to | James Sinclair | Jan. 17, 1913 | 11,500 00 |
| " | Post Office. Supply of coal Anth., egg, per ton. | Geo. E. Taylor | | 7 25 |
| " | " " Anth., stove, per ton. | Geo. E. Taylor | | 7 25 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Parkhill | " | " | Anth., stove, per ton | W. H. Mark | | 7 00 |
| " | " | " | Anth., nut, per ton | Wm. Tracy | | 7 00 |
| Pembroke | " | " | Anth., egg, per ton | Dunlop & Company | | 8 50 |
| " | " | " | Anth., nut, per ton | Dunlop & Company | | 8 75 |
| " | Public Building | Addition and alterations to | | Wm. Beatty | Oct. 1, 1912 | 16,750 00 |
| Peterborough | Post Office | Supply of coal—Anth., egg, per ton | | The Ontario Coal Co. | | 7 70 |
| " | " | " | Anth., egg, per ton | J. A. E. Fitzgerald | | 7 70 |
| " | Custom-house | " | Anth., stove, per ton | The Peterborough Fuel & Coal Co. | | 7 70 |
| " | Post Office | Fittings | | J. T. Schell Company | Dec. 26, 1912 | 4,201 00 |
| Picton | " | Supply of coal—Anth., stove, per ton | | Hepburn Bros. | | 7 25 |
| " | " | " | Anth., nut, per ton | Hepburn Bros. | | 7 50 |
| Port Arthur | " | " | Anth., furn., per ton | Louis Walsh Coal Company | | 7 40 |
| " | " | " | Anth., nut, per ton | Louis Walsh Coal Company | | 7 65 |
| Port Colborne | " | Fittings | | A. E. Augustine | May 10 1912 | 375 00 |
| Port Hope | Post Office | Supply of coal—Anth., egg, per ton | | E. Brown & Company | | 7 40 |
| " | " | " | Anth., nut, per ton | E. Brown & Company | | 7 65 |
| " | Public Building | Interior fittings | | J. T. Schell Company | Nov. 13, 1912 | 4,939 00 |
| Port Perry | Post Office | Supply of coal—Anth., egg, per ton | | J. H. Downey & Company | | 6 90 |
| " | " | " | Anth., nut, per ton | J. H. Downey & Company | | 7 10 |
| " | Public Building | Interior fittings | | The Berlin Interior Hardwood Co., Ltd. | Feb. 28, 1913 | 990 00 |
| Prescott | Post Office | Supply of coal—Anth., egg, per ton | | James Buckley | | 6 10 |
| " | Custom House | " | Anth., egg, per ton | James Buckley | | 6 10 |
| Renfrew | Post Office | " | Anth., egg, per ton | Jas. Ward | | 8 00 |
| " | " | " | Anth., nut, per ton | Jas. Ward | | 8 20 |
| " | " | Clock tower to | | J. M. Roberts | March 15, 1913 | 1,539 00 |
| Sandwich | " | Supply of coal—Anth., egg, per ton | | A. G. Hutchison | | 7 40 |
| Sarnia | " | " | Anth., egg, per ton | W. A. Brown | | 7 20 |
| Sault Ste. Marie | " | " | Anth., egg, per ton | The Sault Ste. Marie Coal Co. | | 8 25 |

No. 1.—Contracts let by the Department of Public Works of Canada, from April 1, 1912, to March 31, 1913—*Continued.*

| Works. | | | Names of Contractors. | Date of Contract. | Amount. |
|---|---|---|---|---|---|
| | | | | | $ cts. |
| Public Buildings—*Continued.* | | | | | |
| *Ontario*—Con. | | | | | |
| Sault Ste. Marie | Public Building | Alterations and additions to tower | D. Jamison & Son | Oct. 19, 1912 | 3,950 00 |
| " | " | Painting and cleaning, etc. to | L. T. Grant | Nov. 26, 1912 | 1,550 00 |
| Seaforth | Post Office | Fittings | J. T. Schell Company | July 19, 1912 | 1,829 00 |
| Smiths Falls | " | Supply of coal—Anth., egg, per ton | A. Foster | | 7 25 |
| " | " | " Anth., nut, per ton | Thos. Graham | | 7 75 |
| Stratford | " | " Anth., egg, per ton | Andrew Johnston & Co. | | 6 90 |
| Strathroy | " | " Anth., stove, per ton | R. M. Pincombe | | 7 00 |
| " | " | " Anth., nut, per ton | R. M. Pincombe | | 7 25 |
| St. Catharines | Public Building | Electric light wiring and fittings | The Barratt Electric Co. | Oct. 23, 1912 | 1,198 00 |
| St. Marys | Post Office | Supply of coal—Anth., furn., per ton | J. D. Martin | | 6 95 |
| " | " | " Anth., nut, per ton | Dunsmith & Thompson | | 7 25 |
| St. Thomas | " | " Anth., egg, per ton | M. Scarrow & Company | | 6 95 |
| Tilbury | Post Office and Customs | Fittings | The S. Hadley Lumber Co. Ltd. | Dec. 23, 1912 | 1,250 |
| Tilsonburg | " | Fittings | J. T. Schell Company | Sept. 5, 1912 | 2,141 00 |
| Toronto | Custom-house | Supply of coal—Anth., grate, per ton | P. Burns & Company | | 6 00 |
| " | " | " Anth., nut, per ton | P. Burns & Company | | 7 25 |
| " | " | " Bit., per ton | The Connell Anthracite Mining Co | | 4 75 |
| " | Examining Warehouse | " Anth., nut, per ton | P. Burns & Company | | 6 75 |
| " | " " | " Bit., per ton | The Connell Anthracite Mining Co | | 4 75 |
| " | Post Office | " Anth., grate, per ton | P. Burns & Company | | 6 75 |
| " | " | " Anth., nut, per ton | P. Burns & Company | | 7 25 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Toronto | Postal Station "C" | Supply of coal—Anth., egg, per ton | P. Burns & Company | | | 7 | 00 |
| " | " "C" | " Anth., nut, per ton | P. Burns & Company | | | 7 | 25 |
| " | " "F" | " Anth., egg, per ton | P. Burns & Company | | | 7 | 00 |
| " | " "F" | " Anth., nut, per ton | P. Burns & Company | | | 7 | 25 |
| " | " "D" | " Anth., egg, per ton | P. Burns & Company | | | 7 | 00 |
| " | Revenue Office | " Anth., grate, per ton | P. Burns & Company | | | 6 | 75 |
| " | " | " Anth., nut, per ton | P. Burns & Company | | | 2 | 75 |
| " | " | " Bit., per ton | The Connell Anthracite Mining Co | | | 4 | 75 |
| Trenton | Post Office | " Anth., egg, per ton | B. W. Powers & Son | | | 6 | 70 |
| " | " | " Anth., nut, per ton | B. W. Powers & Son | | | 6 | 70 |
| Uxbridge | " | " Anth., egg, per ton | J. H. Downey & Company | | | 6 | 90 |
| " | " | " Anth., nut, per ton | J. H. Downey & Company | | | 7 | 10 |
| " | " | Interior fittings | The Berlin Interior Hardwood Co. Ltd | Feb. 28, 1913 | 1,550 | 00 | |
| Walkerton | " | Supply of coal—Anth., egg, per ton | Alex. George | | | 7 | 50 |
| Waterloo | " | " Anth., egg, per ton | Kloepfer & Company | | | 7 | 25 |
| " | " | " Anth., nut, per ton | Kloepfer & Company | | | 7 | 50 |
| " | " | Fittings | J. T. Schell Co | April 12, 1912 | 1,591 | 09 | |
| Welland | " | Supply of coal—Anth., furn., per ton | S. L. Lambert | | | 6 | 90 |
| Whitby | " | " Anth., furn., per ton | J. H. Downey & Company | | | 6 | 90 |
| " | " | " Anth., nut, per ton | J. H. Downey & Company | | | 7 | 10 |
| Wingham | " | " Anth., furn., per ton | Richardson and Rae | | | 7 | 60 |
| " | " | " Anth., nut, per ton | Richardson and Rae | | | 7 | 85 |
| Woodstock | " | " Anth., egg, per ton | B. Blair & Company | | | 7 | 25 |

*Manitoba.*

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Brandon | Experimental Farm | Supply of coal—Anth., stove, per ton | J. G. Hargrave & Company | | | 11 | 75 |
| " | " | " Bit., Can., per ton | Barclay and O'Hara | | | 10 | 00 |

No. 1.—Contracts let by the Department of Public Works of Canada, from April 1, 1912, to March 31, 1913—*Continued.*

| Works. | | | | Names of Contractors. | Date of Contract. | Amount. |
|---|---|---|---|---|---|---|
| | | | | | | $ cts. |
| Public Buildings—*Continued.* | | | | | | |
| *Manitoba*—Con. | | | | | | |
| Brandon | Post Office | Supply of coal— | Anth., egg, per ton | Barclay and O'Hara | | 11 50 |
| " | " | " | Bit., per ton | Barclay and O'Hara | | 9 50 |
| " | Immigration Building | " | Bit., per ton | Barclay and O'Hara | | 4 15 |
| " | Horse Stable at Experimental Farm | Construction of | | The Brandon Construction Co. Ltd | Jan. 2, 1913 | 7,054 00 |
| Dauphin | Post Office | Supply of coal— | Anth., egg, per ton | Thos. Jordan | | 11,30 |
| Emerson | " | " | Anth., stove, per ton | J. G. Hargrave & Company | | 10 50 |
| " | " | " | Bit., Can., per ton | Chas. Whitman | | 8 50 |
| " | Immigration Building | " | Anth., per ton | J. G. Hargrave & Company | | 10 50 |
| Minnedosa | Public Building | Construction of | | The Brown Construction Co Ltd | Dec. 10, 1912 | 45,500 00 |
| Morden | " | " | | The Brown Construction Co. Ltd | March 13, 1913 | 34,000 00 |
| Neepawa | Immigration Building | Supply of coal— | Anth., egg, per ton | Windatt & Company | | 11 45 |
| " | " | " | Anth., stove, per ton | Windatt & Company | | 11 45 |
| Portage La Prairie | Public Building | " | Anth., egg, per ton | J. G. Hargrave & Company | | 11 15 |
| " | " | " | Bit. Can., per ton | R. G. Long & Company | | 9 50 |
| Selkirk | " | " | Anth., egg, per ton | Thos. Reid | | 10 75 |
| Souris | " | " | Bit., per ton | J. G. Hargrave & Company | | 8 53 |
| St. Boniface | " | " | Anth., furn., per ton | Pittsburg Coal Company | | 9 65 |
| Winnipeg | New Post Office | " | Bit. Can., per ton | Windatt & Company | | 6 65 |
| " | Immigration Hospital No. 3 | " | Anth., egg, per ton | Pittsburg Coal Company | | 9 65 |
| " | Old Post Office | " | Anth., egg, per ton | Pittsburg Coal Company | | 9 65 |
| " | New Examining Warehouse | " | Bit., per ton | Windatt & Company | | 6 65 |

| | | | | | | |
|---|---|---|---|---|---|---|
| " | Postal Station1 'B' | " | Anth., egg, per ton | Pittsburg Coal Company | | 9 65 |
| " | Immigration Hall No. 1 | " | Anth., egg, per ton | Pittsburg Coal Company | | 9 65 |
| " | " No. 2 | " | Anth., egg, per ton | Pittsburg Coal Company | | 9 65 |
| | | *Saskatchewan* | | | | |
| Battleford | Post Office | Electric light wiring and fitting | | The Northwestern Electric Ltd | June 17, 1912 | 1,196 00 |
| " | Immigration Building | Supply of coal—Bit., per ton | | J. G. Hargrave & Company | | 9 53 |
| Estevan | Post Office | " | Bit. Can., per ton | Duncan Moulton Company | | 8 75 |
| " | " | " | Lignite, per ton | Duncan Moulton Company | | 2 90 |
| Gravelburg | Immigration Building | " | Bit. Can., per ton | Jos. M. Beaubien | | 23 30 |
| Humboldt | Post Office, Customs and Inland Revenue | Fittings | | J. T. Schell Company | July 23, 1912 | 2,311 00 |
| Indian Head | Forest Nursery Station Boarding House | Construction of | | A. B. Hamilton | June 17, 1912 | 4,960 00 |
| " | Experimental Farm | Supply of coal—Bit., per ton | | J. G. Hargrave & Company | | 9 33 |
| " | " | " | Bit. Can., per ton | Hunter, Cantalon & Company | | 10 00 |
| " | Forest Nursery Station | " | Anth., furn., per ton | Hunter, Cantalon & Co,pany | | 12 00 |
| " | " | " | Anth., stove, per ton | Hunter, Cantalon & Company | | 12 00 |
| " | " | " | Bit. Can., per ton | Hunter, Cantalon & Company | | 10 00 |
| " | Experimental Farm—barn and Stabling | Construction of | | A. B. Hamilton | Oct. 10, 1912 | 33,000 00 |
| Lloydminster | Post Office, Customs, etc., Building | Construction of | | F. E. Healy and J. M. Piggott | April 1, 1912 | 27,500 00 |
| " | Immigration Hall | Supply of coal—Bit. Can., per ton | | James Vincent | | 5 25 |
| Maple Creek | Post Office | " | Anth., fur. per ton | A. A. Mendey | | 12 00 |
| " | " | " | Bit. Can., per ton | A. A. Mendey | | 8 00 |
| Moosejaw | Post Office | Supply of coal—Anth., egg, per ton | | Hitchcock and McCullough | | 12 35 |
| " | Immigration Building | " | Bit. Can., per ton | Hitchcock and McCullough | | 7 55 |
| Regina | Post Office | " | Anth., egg, per ton | J. G. Hargrave & Company | | 12 75 |
| " | " | " | Bit. Can., per ton | Whitman Bros. | | 9 00 |
| " | Dominion Lands | " | Anth., egg, per ton | J. G. Hargrave & Company | | 12 75 |

No. 1.—Contracts let by the Department of Public Works of Canada, from April 1, 1912, to March 31, 1913—*Continued.*

| Works. | | | | | Names of Contractors. | Date of Contract. | Amount. |
|---|---|---|---|---|---|---|---|
| | Public Buildings—*Continued.* | | | | | | $ cts. |
| | *Saskatchewan*—Concluded. | | | | | | |
| Regina | Dominion Lands | | Supply of Coal | Bit. Can., per ton | Whitman Bros. | | 9 00 |
| " | Immigration Building | | " | Bit. Can., per ton | Whitman Bros. | | 9 00 |
| Saskatoon | Post Office | | " | Anth., egg, per ton | Windatt & Company | | 12 95 |
| " | Immigration Building | | " | Anth., stove, per ton | Windatt & Company | | 12 95 |
| Swift Current | " | | " | Bit. Can., per ton | Moore Lumber Company | | 8 20 |
| Unity | " | | " | Bit. Can., per ton | Unity Lumber Company | | 6 50 |
| Wilkie | " | | " | Bit. Can., per ton | Reliance Lumber Company | | 13 00 |
| Yonkers | Post Office | | " | Bit. Can., per ton | Manitou Lake Trading Company | | 7 00 |
| Yorkton | " | | " | Anth., egg, per ton | J. G. Hargrave & Company | | 12 65 |
| | *Alberta* | | | | | | |
| Calgary | Immigration Building | | Construction of | | The J. McDiarmid Company | July 15, 1912 | 25,700 00 |
| " | " | Shed | Supply of coal | Bit., per ton | C. S. Lott | | 7 25 |
| " | " | " | " | Anth. | C. S. Lott | | 9 00 |
| " | Post Office | | " | Anth., egg, per ton | C. S. Lott | | 9 00 |
| " | Examining Warehouse | | Construction of | | The J. McDiarmid Company | Dec. 26, 1912 | 455,000 00 |
| Castor | Immigration Office | | Supply of coal | Bit., per ton | A. D. McCormack | | 7 50 |
| Edmonton | " | Building | " | Bit. Can., per ton | The Western Coal Company | | 4 00 |
| " | Post Office | | " | Bit. Can., per ton | The Western Coal Company | | 4 00 |
| Edson | Immigration Office | | " | Bit., per ton | Arthur Hudaman | | 3 00 |
| Kerobert | " | " | " | Bit. Can., per ton | Beaver Lumber Company | | 9 25 |
| Lethbridge | Public Building | | Construction of | | Navin Bros. | Sept. 14, 1912 | 221,300 00 |

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|---|---|---|---|---|---|---|---|
| " | Post Office, etc | Supply of coal | Bit. Can., per ton | The Western Coal Company | | | 4 50 |
| Macleod | Custom-house | " | Bit. Can., per ton | The R. H. Hilliard Agency | | | 6 00 |
| " | " | " | Anth., stove, per ton | Geo. Skelding | | | 9 00 |
| Medicine Hat | Post Office | " | Bit., per ton | J. G. Hargrave & Company | | | 9 93 |
| Red Deer | Public Building | " | Bit. Can., per ton | Hewson & Son | | | 6 00 |
| Strathcona | Post Office | Fittings | | J. T. Schell Company | Sept. | 18, 1912 | 3,917 00 |
| Strathcona | Post Office | Supply of coal | Bit. Can., per ton | Inter-Provincial Coal Co. | | | 4 50 |
| Vermilhon | Immigration Building | " | Bit. Can., per ton | Alberta Western Lehigh Co. | | | 6 50 |
| Viking | " | " | Anth., stove, per ton | Steeve Jones | | | 5 75 |
| Wainwright | " | " | Bit. Can., per ton | Wainwright Fuel Company | | | 6 00 |
| Wetaskiwin | Post Office | Fittings | | J. T. Schell Company | Jan. | 10, 1913 | 3,801 09 |
| | | *British Columbia.* | | | | | |
| Chilliwack | Public Building | Interior Fittings | | Vancouver Showcase and Cabinet Works | Nov. | 20, 1912 | 1,691 00 |
| Comox | " | Construction of | | H. J. Warwick and W. T. White | Dec. | 23, 1912 | 4,975 00 |
| Cranbrook | Post Office | Fittings | | J. T. Schell Company | July | 19, 1912 | 3,345 00 |
| Cumberland | Public Building | Fittings | | J. T. Schell Company | Oct. | 7, 1912 | 1,469 00 |
| Grand Forks | Post Office, Customs, etc | Fittings | | J. T. Schell Company | Feb. | 24, 1913 | 3,845 00 |
| Nanaimo | " | Fittings | | The Berlin Interior Hardwood Co., Ltd | July | 25, 1912 | 2,070 00 |
| Vancouver | " | Alterations and Additions to fittings | | Charles Francis Perry | Aug. | 26, 1912 | 2,818 40 |
| " | " | Metallic Cases for | | Office Specialty Manufacturing Co. Ltd | Sept. | 4, 1912 | 6,090 00 |
| " | Examining Warehouse | One (1) Electric Passenger and three (3) Freight Elevators for | | P. E. Harris & Company Ltd | Jan. | 25, 1913 | 10,500 00 |
| William Head | Quarantine Station—Recreation Hall | Construction of | | Edward Hunt | Jan. | 7, 1913 | 3,625 00 |
| " | " —Steward's Quarter Building | Construction of | | Edward Hunt | Jan. | 7, 1913 | 3,050 00 |
| " | " | Addition to first-class passenger building | | Edward Hunt | Jan. | 7, 1913 | 5,584 09 |
| " | " | Bathouse for first-class passengers | | Edward Hunt | Jan. | 7, 1913 | 4,500 00 |

No. 1.—Contracts let by the Department of Public Works of Canada, from April 1, 1912, to March 31, 1913—*Continued.*

| Works. | | | Names of Contractors. | Date of Contract. | Amount. |
|---|---|---|---|---|---|
| Harbours and Rivers. | | | | | $ cts. |
| *Nova Scotia.* | | | | | |
| Arnold's Cove | | Dredging—Class B, per cubic yard. | Alfred Heffer. | Sept. 25, 1913 | 0 29 |
| Big Lorraine | | " Class 'B,' per cubic yard. | Cann and McLean. | May 9, 1912 | 0 75 |
| Carr's Brook | Breakwater wharf | Construction of | Halle Bigelow | Sept. 17, 1912 | 9,300 00 |
| Cheticamp | | Dredging—Class 'B,' per cubic yard. | V. T. Bartram | Aug. 6, 1912 | 0 37½ |
| D'Escousse | | " Class 'B,' per cubic yard. | V. T. Bartram | July 17, 1912 | 0 26½ |
| Devil's Island | Breakwater | Extension to | Obed A. Ham | April 9, 1912 | 26,984 00 |
| East Chezzetcook | Breakwater | Construction of | Gilroir & Sweet | May 4, 1912 | 7,260 00 |
| Feltzen South | " | Construction of | Duncan L. Fraser | March 13, 1913 | 13,800 00 |
| Grand Etang | | Dredging—Class 'B,' per cubic yard. | V. T. Bartram | May 3, 1912 | 0 37½ |
| Larry's River | | " Class B, per cubic yard. | Atlantic Dredging Company, Ltd. | May 10, 1912 | 0 45 |
| Little Bras d'Or | Breakwater | Construction of | MacNutt and Landry | May 6, 1912 | 11,800 00 |
| Lunenburg | | Dredging—Class 'B,' per cubic yard. | The W. J. Poupore Co. Ltd. | May 4, 1912 | 0 27½ |
| Margaree Harbour | | " Class 'B,' per cubic yard. | Atlantic Dredging Company, Limited | Sept. 25, 1912 | 0 40 |
| Mill Cove | | " Class 'B' per cubic yard. | The Halifax Dredging Co. Ltd. | Aug. 5, 1912 | 0 29 |
| Petit de Grat | | " Class 'B' per cubic yard | The W. J. Poupore Co. Ltd. | May 9, 1912 | 0 55 |
| Raquette (Digby) | | " Class 'B' per cubic yard | The Dominion Dredging Company, Limited | Sept. 18, 1912 | 0 27½ |
| River Lorgeois | | " Class 'B' per cubic yard. | The Coastal Dredging & Construction Co. Ltd | Oct. 10, 1912 | 0 22 |
| Seaforth | Breakwater | Construction of | The Halifax Dredging Company, Limited | Dec. 13, 1912 | 17,300 00 |
| Sydney Harbour | | Dredging—Class 'B,' per cubic yard. | The Coastal Dredging & Construction Co. Ltd. | July 10, 1912 | 0 34 |
| Trout Cove | Supply of creosoted Virginia pine | Per M. b.m. | Mackay Brothers | April 30, 1912 | 54 75 |
| Trout Cove (Centreville) | New Breakwater | Construction of | Edward R. Read | Aug. 8, 1912 | 44,500 00 |

| | | | | | |
|---|---|---|---|---|---|
| Weymouth—Sissiboo River) | | Dredging—Class 'B', per cubic yard | The Halifax Dredging Company, Limited | Sept. 30, 1912 | 0 48 |
| Yarmouth (Sollows Rock Shoals) | | " Class 'B,' per cubic yard | The Dominion Dredging Company, Limited | Sept. 18, 1912 | 0 22½ |
| *Prince Edward Island.* | | | | | |
| Naufrage Pond | Extension to breakwater and deepening entrance | | W. H. Townshend | July 20, 1912 | 6,789 00 |
| Souris | Breakwater | Extension of 400 feet to | Beazley Bros., Limited | Oct. 18, 1912 | 143,917 00 |
| Summerside | | Dredging— | The Dominion Dredging Company, Limited | May 3, 1912 | 0 35 |
| St. Peter's Bay | Reconstruction and repair of | wharf at head of | The Annandale Lumber Co. Ltd | Feb. 5, 1913 | 3,993 00 |
| Franklyn Point (North River) | Wharf | Construction of | McEwen, Coffin and Webster | Dec. 5, 1912 | 24,990 00 |
| Vernon River | | Dredging—Class 'B', per cubic yard | The Island Dredging and Construction Co | July 20, 1912 | 0 24 |
| *New Brunswick.* | | | | | |
| Albert | Wharf and bed for vessels | Construction of | Wm. Frank Wilson | Jan. 6, 1913 | 14,286 00 |
| Buctouche Beach | | Dredging—Class B, per cubic yard | Peter England | May 3, 1912 | 0 36 |
| Caraquet | | " Class 'B,' per cubic yard | The W. J. Poupore Co. Ltd | May 3, 1912 | 0 30 |
| Castalia (Grand Manan) | Breakwater | Construction of | C. A. Huntley | May 18, 1912 | 5,840 00 |
| *Dalhousie | | Dredging—Class 'A,' per cubic yard | Tenant and O'Leary | May 3, 1912 | 5 00 |
| | | Class 'B,' per cubic yard | | | 0 29¼ |
| Dalhousie (Ferry Basin) | | " Class 'B,' per cubic yard | Northern Dredging & Construction Co. Ltd | Oct. 31, 1912 | 0 29½ |
| Fairhaven (Deer Island) | Pier head to public wharf | Construction of | C. A. Huntley | Nov. 28, 1912 | 5,750 00 |
| Fredericton | | Dredging—Class 'B,' per cubic yard | The New Brunswick Construction Co. Ltd | July 16, 1912 | 0 23 |
| " | High water wharf | Construction of | C. and R. Forbes | Aug. 5, 1912 | 19,700 00 |
| " | | Dredging—Class 'B,' per cubic yard | The New Brunswick Construction Co. Ltd | Aug. 19, 1912 | 0 23 |
| Grand Dune Flats (Miramichi Bay.) | | " Class 'B,' per cubic yard | The Northern Dredging & Construction Co. Lt | Oct. 5, 1912 | 0 20 |
| Little Lameque | Wharf | Construction of | H. G. Beresford | April 30, 1912 | 24,890 00 |
| Loggieville | | Dredging—Class 'B,' per cubic yard | The W. J. Poupore Co. Ltd | May 3, 1912 | 0 33 |
| Marble Cove—(St. John River) | | " Class 'B,' per cubic yard | G. S. Gregory | Sept. 10, 1912 | 0 24 |
| North Head (Grand Manan) | Breakwater | Extension to | C. A. Huntley | Nov. 28, 1912 | 30,888 00 |

* Transferred to the Northern Dredging & Construction Co. Ltd.

No. 1.—Contracts let by the Department of Public Works of Canada, from April 1, 1912, to March 31, 1913—*Continued.*

| Works. | | | Names of Contractors. | Date of Contract. | Amount. |
|---|---|---|---|---|---|
| Harbours and Rivers—*Continued.* | | | | | |
| *New Brunswick*—Continued. | | | | | $ cts. |
| Ox Island | | Dredging—Class 'B,' per cubic yard | Maritime Dredging & Construction Co. Ltd | May 3, 1912 | 0 24½ |
| Perry Point | | " Class 'A,' per cubic yard | Maritime Dredging & Construction Co. Ltd | July 29, 1912 | 4 90 |
| | | Class 'B,' per cubic yard | | | 0 19½ |
| Reed's Point (Lorneville) | Breakwater | Extension to | John Burns | Aug. 27, 1912 | 34,900 00 |
| Richibucto | | Dredging—Class 'B,' per cubic yard | The W. J. Poupore Co. Ltd. | May 3, 1912 | 0 30 |
| Shediac | | " Class 'B,' per cubic yard | The General Construction & Dredging Co. Ltd. | May 3, 1912 | 0 38 |
| Shippegan Gully | | " Class 'B,' per cubic yard | The W. J. Poupore Co. Ltd. | May 3 1912 | 0 40 |
| St. Andrews Harbour | | " Class 'B,' per cubic yard | Maritime Dredging & Construction Co. Ltd. | July 30, 1912 | 0 24½ |
| St. George | | " Class 'B,' per cubic yard | Maritime Dredging & Construction Co. Ltd. | Aug. 20, 1912 | 0 49 |
| St. John Harbour | Deep water wharf alongside I.C.Ry | Dredging | G. S. Gregory | May 27, 1912 | 0 36 |
| St. John | Reconstruction of 90 feet in length of south end of old C.P.Ry wharf (Beacon Bar) | | Michael Connolly | Nov. 28, 1912 | 14,621 31 |
| St. John | Filling on western side of harbour | Per cubic yard | Maritime Dredging and Construction Co. Ltd. | Feb. 1, 1913 | 0 15 |
| Upper Maugerville | High water wharf | Construction of | F. L. Boone | Oct. 14, 1912 | 2,879 00 |
| Upper Salmon River | Pier | Construction of | Warren and Oscar Downey | April 26, 1912 | 5,386 00 |
| *Quebec.* | | | | | |
| Batiscan River | | Dredging—Class 'B,' per cubic yard | The W. J. Poupore Co. Ltd. | May 3, 1912 | 0 15 |
| " | Two landing piers | Construction of | Onesime Poliquin | Feb. 4, 1913 | 17,299 78 |
| Berthierville | | Dredging—Class 'B,' per cubic yard | The W. J. Poupore Co. Ltd. | May 2, 1912 | 0 14 |
| " | Wharf | Construction of | Eugene Patenaude | May 9, 1912 | 14,721 70 |

| | | | | | | |
|---|---|---|---|---|---|---|
| Cap a l'Aigle | Wharf | Extension to | Nap. Trudel | Dec. 26, 1912 | 29,330 85 | |
| Cape Cove | Landing Pier | Construction of | J. R. Toupin | May 14, 1912 | 24,500 00 | |
| Cap de la Madeleine | Old wharf | Extension to | Charles Pagé | March 3, 1913 | Sched: of prices. | |
| Cap St. Ignace | Wharf | Construction of | Misael Bernatchez | April 15, 1912 | 11,440 00 | |
| Green Shoals (Ottawa River) | | Dredging—Rock, per cubic yard | L. Cohen & Son | May 3, 1912 | 3 75 | |
| Lanoraie | | " Class 'B,' per cubic yard | F. C. Burns | Aug. 27, 1912 | 0 20 | |
| " | Wharf | Reconstruction of | Arthur Daigneault | Jan. 3, 1913 | 6,345 00 | |
| Lavaltrie | | Dredging—Class 'B,' per cubic yard | F. C. Burns | Oct. 5, 1912 | 0 20 | |
| L'Islet | Removal and replacing of part of wharf superstructure | | J. Bte. Gallibois | March 11, 1913 | 23,400 00 | |
| Longueuil | | Dredging—Class 'A,' per cubic yard | The W. J. Poupore Co. Ltd | Dec. 18, 1912 | 5 00 | |
| | | Class 'B,' per cubic yard | | | 0 22½ | |
| Maple Rapids | Quinze Lake Dam and Sluiceway | Construction of | Morrow and Beatty | April 29, 1912 | 233,850 00 | |
| Murray Bay | Wharf | Addition to | Nap. Trudel | Oct. 22, 1912 | 61,444 09 | |
| Nicolet River | | Dredging—Class 'B,' per cubic yard | L. Cohen & Son | May 9, 1912 | 0 30½ | |
| Quebec Harbour (St. Charles River) | Construction of locks and dam at entrance of | | Quinlan and Robertson | March 17, 1913 | Sched: of prices. | |
| Rimouski | Breakwater wharf | Construction of | J. E. Boulanger and J. Gallibois | May 1, 1912 | 19,550 00 | |
| Ste. Adelaide de Pabos | Breakwater | Extension to | Arthur and Edmund Nadeau | Jan. 13 1913 | 6,485 00 | |
| St. Antoine (Verchéres) | Landing Pier | Construction of | Olivier Paul | Jan. 15, 1913 | 9,400 00 | |
| Ste. Felicité | Landing Pier | Construction of | Misael Bernatchez | Nov. 9, 1912 | 13,450 00 | |
| Ste. Geneviéve de Batiscan | Wharf | Construction of | The Lauzon Engineering Co. Ltd | Feb. 1, 1913 | 7,289 05 | |
| Ste. Luce | Wharf | Construction of | Nap. Trudel | May 17, 1912 | 11,968 00 | |
| St. Maurice River | | Dredging—Class 'B,' per cubic yard | Antoine St. Pierre | May 9, 1912 | 0 12 | |
| Varennes | | " Class 'B,' per cubic yard | The General Improvement and Contracting Co. Ltd | Aug. 5, 1912 | 0 19½ | |
| Ville Marie (Pontiac Co.) | Wharf | Construction of | R. Brewder | March 28, 1913 | 17,971 93 | |
| Woodlands | | Dredging—Class 'B,' per cubic yard | The General Improvement and Contracting Co. Ltd | July 9, 1912 | 0 16 | |
| | | *Ontario.* | | | | |
| Beaverton | Reconstruction of Breakwater and construction of sheet piling and dredging | | David Conroy | Nov. 18, 1912 | 41,874 00 | |
| Belle Ewart | Wharf and Stone Approach | Construction of | Henry Hickey | Oct. 16, 1912 | 8,000 00 | |
| Bigby | One curb stone approach, etc., over existing wharf | Construction of | J. O. Roddick | Sept. 20, 1912 | 5,448 40 | |

No. 1.—Contracts let by the Department of Public Works of Canada, from April 1, 1912, to March 31, 1913. *Continued.*

| Works. | | Names of Contractors. | Date of Contract. | Amount. |
|---|---|---|---|---|
| | Harbours and Rivers—*Continued.* | | | |
| | *Ontario*—Continued. | | | $ cts. |
| Bend River | Dredging—Class 'B,' per cubic yard | C. S. Boone Dredging and Construction Co. Ltd. | June 15, 1912 | 0 15½ |
| Brockville | Improvements to wharf and part of Tunnel Bay Dock | McCool and Moffatt | Nov. 18, 1912 | 15,382 50 |
| Cobourg | Dredging the Bar at Entrance to Harbour of—Class 'B,' per cubic yard | General Dredging and Construction Co. Ltd. | Feb. 25, 1913 | 0 19½ |
| Deseronto | Dredging—Class 'A,' per cubic yard | John E. Russell | June 15, 1912 | 4 25 |
| " | " Class 'B,' per cubic yard | " | | 0 26 |
| Big Bay Point | Wharf—Construction of | Henry Hickey | Jan. 30, 1913 | 7,500 00 |
| ‡Echo Bay | Dredging—Class 'B,' per cubic yard | Robertson, Ferrier and Kennedy | May 3, 1912 | 0 22 |
| Gananoque | " Class 'A,' per cubic yard | The Macdonald Contracting Co. Ltd | July 30, 1912 | 5 00 |
| | " Class 'B,' per cubic yard | " " " | | 0 17 |
| Goderich | Wharf—Construction of | J. H. Tromanhauser | April 11, 1912 | 35,437 90 |
| " | Extension to North Breakwater and dredging | Wm. Bermingham | May 17, 1912 | 26,500 00 |
| " | Dredging—Class 'A,' per cubic yard | The Marlton Dredging Company | July 15, 1912 | 2 50 |
| | Class 'B,' per cubic yard | " " " | | 0 25 |
| " | Breakwater—Construction of | Wm. Bermingham | Dec. 4, 1912 | 26,000 00 |
| Hamilton | Construction of wharf and dredging | Hennessey, Dwyer, Poupore and Taylor | March 10 1913 | 178,066 79 |
| Hanlan's Point (Toronto Bay) | Dredging and Approach to Ferry Wharfs—Class 'B,' per cubic yard | General Construction and Dredging Co. Ltd | May 29, 1912 | 0 15 |
| Honey Harbour | Dredging—Class 'A,' per cubic yard | The Canadian Dredging Co. Ltd | July 25, 1912 | 6 00 |
| | Class 'B,' per cubic yard | " " " | | 0 52 |
| Kaministiquia River | Dredging—Class 'B,' per cubic yard | Great Lakes Dredging Co. Ltd. | Dec. 16, 1912 | 0 25 |
| Kempenfeldt Bay | Wharf—Construction of | J. O. Roddick | Sept. 20, 1912 | 9,783 12 |
| Kingsville | Dredging in the Harbour of—Class B, per cubic yard | Wm. Edw. Hardison | July 11, 1912 | 0 15 |

| | | | | | |
|---|---|---|---|---|---|
| " | " Bar at entrance | per cubic yard | " | | 0 25 |
| Lion's Head | Wharf | Extension to | J. E. Johnson and J. T. Crawford | May 18, 1912 | 6,200 00 |
| McKellar River | | Dredging—Class 'A,' per cubic yard | Great Lakes Dredging Company Limited | April 15, 1912 | 3 85 |
| | | Class 'B,' per cubic yard | " " " | | 0 17½ |
| Meaford | Construction of an extension to Eastern Breakwater and removal of 'L' on Western Breakwater | | Gideon Kastner | April 3, 1912 | 36,700 00 |
| Midland | | Dredging—Class 'B,' per cubic yard | The Canadian Dredge and Construction Co. | May 2, 1912 | 0 08 |
| Mission River (Fort William) | Additional section to Quay Wall at mouth of | Construction of | Heney and Smith | Nov. 18, 1912 | 132,000 00 |
| Napanee | | Dredging—Class 'B,' per cubic yard | W. E. Phin | July 24, 1912 | 0 19 |
| New Liskeard | Public Wharf | Construction of | McCool and Moffatt | Dec. 9, 1912 | 10,985 00 |
| New Ontario | Coal Dock and Ferry Dock | Dredging—Class 'A,' per cubic yard | The Soo Dredging and Construction Co. Ltd. | Oct. 14, 1912 | 3 47 |
| | | Class, 'B' per cubic yard | " " " | | 0 92 |
| Orillia | Wharf and Stone Approach | Construction of | David Conroy | Sept. 14, 1912 | 10,874 00 |
| Owen Sound | Wharf or Retaining Wall | Construction of | Bishop and Buchanan | Aug. 21, 1912 | 54,785 00 |
| " | Retaining Wall | Construction of | D. M. Batchart and R. McDowall | Nov. 19, 1912 | 18,900 00 |
| Parry Sound | Wharf and Approach | Construction of | Robinson, Walton and White | Oct. 21, 1912 | 72,000 00 |
| Penetanguishene | | Dredging—Class 'B' per cubic yard | Penetanguishene Dredging Co. | Nov. 1, 1912 | 0 15 |
| Picton | | " Class 'B,' per cubic yard | Fallon Brothers | Sept. 5, 1912 | 0 17 |
| Port Arthur | Dredging at Fish Dock and Thunder Bay Elevator Co's. Dock | Rock drilled and blasted and boulders over 2 c. yds. per cubic yard | W. E. Phin | May 2, 1912 | 2 00 |
| | | Other materials | | | 0 13 |
| | | For all other rock excavated hitherto by dredge, per cubic yard | | | 0 60 |
| " | | Dredging—Rock, per cubic yard | W. E. Phin | Aug. 19, 1912 | 2 00 |
| | | For rock excavated without blasting and drilling, per yard | | | 0 60 |
| | | and for all other materials, per cubic yard | | | 0 13 |
| " | Placing riprap at outer end of new Breakwater | Per ton | The Thunder Bay Contracting Co. Ltd | Oct. 26, 1912 | 1 10 |
| " | Dredging along Revetment Wall of Dry Dock | Class 'B,' per cubic yard | Great Lakes Dredging Co. Ltd. | Nov. 11, 1912 and | 0 62½ 0 20 |

‡ Contract transferred to Superior Dredge and Dock Company, Limited.

No. 1.—Contracts let by the Department of Public Works of Canada, from April 1, 1912, to March 31, 1913—*Continued.*

| Works. | | | Names of Contractors. | Date of Contract. | Amount. |
|---|---|---|---|---|---|
| | | | | | $ cts. |
| HARBOURS AND RIVERS—*Continued.* | | | | | |
| *Ontario*—Continued. | | | | | |
| Port Arthur | Breakwater | Construction of | The Thunder Bay Contracting Co. Ltd | Feb. 18, 1913 | 522,011 00 |
| Port Hope | | Dredging—Class 'A,' per cubic yard | R. Weddell & Company | June 18, 1912 | 4 50 |
| Port Stanley | | " Class 'B,' per cubic yard | The Windsor Dredging Co. Ltd | Nov. 21, 1912 | 0 27 |
| Providence Bay | Wharf | Construction of | E. V. H. White | Feb. 6, 1913 | 24,480 00 |
| Rainy River | | Dredging—Class 'B,' per cubic yard | J. T. Horne | Aug. 5, 1912 | 0 37 |
| Sault Ste. Marie | Dry Dock | Construction of | The Sault Ste. Marie Dry Dock and Shipbuilding Co. Ltd | July 5, 1912 | Subsidy of 3% during 20 yrs. |
| " | New Ontario Coal Dock and Ferry Dock | Dredging—Class 'A,' per cubic yard | The Soo Dredging & Construction Co. Ltd | July 31, 1912 | 3 47 |
| | | Class 'B,' per cubic yard | " " " | | 0 92 |
| " | Approach to Wharf | Reconstruction of | John O'Boyle | Oct. 30, 1912 | 24,480 00 |
| South Lancaster | | Dredging—Class 'B,' per cubic yard | Fallon Bros. | Sept. 5, 1912 | 0 17 |
| St. Lawrence River (Kingston and Brockville Channels) | | Dredging— | Montreal General Contracting Co. Ltd | March 21, 1913 | 3 95 |
| Telegraph and Nigger Islands | | " Class 'A,' per cubic yard | R. Weddell & Company | Sept. 18, 1912 | 4 50 |
| Tiffin | | Dredging—Class 'A,' per cubic yard | The Canadian Dredge and Construction Co | May 2, 1912 | 2 25 |
| | | Class 'B,' per cubic yard | " " " | | 0 29 |
| Toronto Harbour | Eastern Entrance channel | " Class 'B,' per cubic yard | R. Weddell & Company | July 16, 1912 | 0 17½ |
| " | New Western Entrance | Additional work to | R. Weddell & Company | Sept. 18, 1912 | 163,217 24 |
| Trenton Harbour | | Dredging—Class 'A,' per cubic yard | John Edwin Russell | July 12, 1912 | 3 30 |
| Victoria Harbour | | " Class 'A,' per cubic yard | The Canadian Dredge and Construction Co | May 2, 1912 | 2 25 |

| | | | | | |
|---|---|---|---|---|---|
| | | Class 'B,' per cubic yard | " " " | | 0 12½ |
| Wheatley | Landing Pier | Construction of | Wm. Bermingham | May 8, 1912 | 36,000 00 |
| Whitby Harbour | Stone and Concrete Esplanade Wall | Construction of | Whitney and Code | Jan. 13, 1913 | 20,000 00 |
| Windsor | Wharf | Construction of | E. A. Ponsford | Feb. 17, 1913 | 47,809 41 |
| | | *Manitoba* | | | |
| Lockport | Highway approaches to Steel Service Bridge over Red River | | The Brown Construction Co. Ltd | April 15, 1912 | 71 617 75 |
| St. Andrews Dam—(Red River) Lockport | Fishway | Construction of | The Wm. Newman Company, Limited | Feb. 28, 1913 | 4,456 00 |
| St. Andrews Lock | Supply of electric power for 5 years | Per annum | The Winnipeg Selkirk and Lake Winnipeg Railway Co | April 23, 1912 | 600 00 |
| Victoria Harbour | Breakwater | Construction of | Fort Garry Lumber Company | April 3, 1912 | 14,500 00 |
| | | *Alberta.* | | | |
| Edmonton | Pile Wharf | Construction of | Smith Brothers, Limited | Aug. 16, 1912 | 9,299 00 |
| | | *British Columbia.* | | | |
| Boswell | Wharf | Construction of | Henry Perley Leake | Sept. 6, 1912 | 8,437 00 |
| Comaplix | Pile bent and timber decking wharf | | Sam. Mills and H. S. Beharrell | Oct. 7, 1912 | 7,990 00 |
| False Creek (Vancouver) | | Dredging the channel | The Pacific Dredging Company, Limited | March 17, 1913 | 0 21 per c. yrd. |
| Fraser River | Construction of jetty from Steveston across North Sand Head at mouth of | | Sinclair Construction Company | April 10, 1912 | 171,350 00 |
| Holberg | Wharf | Construction of | Robert Hamilton Wood | Dec. 19, 1912 | 12,657 00 |
| Massett | Public Wharf | Construction of | Wm. Geo. Gillett | Jan. 27, 1913 | 4,875 00 |
| Metchosin | Wharf | Construction of | James MacDonald and Company | Oct. 9, 1912 | 4,837 00 |
| Port Moody (Burrard Inlet) | Extension to Wharf | | George Griffiths | Oct. 9, 1912 | 8,500 00 |
| Refuge Bay (Porcher Island) | Public Wharf | Construction of | Angle and Hyatt | Dec. 28, 1912 | 5,200 00 |
| Sand Spit Point | Public Wharf | Construction of | The Westholme Lumber Company, Limited | Jan. 18, 1913 | 4,375 00 |
| Seymour Arm | Pile bent and timber decking wharf | Construction of | Gillis, Dore and Tansley | Jan. 2, 1913 | 5,850 00 |
| Shutty Bench | Pile and timber decking wharf | Construction of | Wm. English | Jan. 28, 1913 | 5,400 00 |
| Stewart (Head of Portland Canal) | Extension to present public wharf | | W. G. Gillett | April 26, 1912 | 4,627 00 |
| Victoria Harbour | Breakwater | Construction of | Sir John Jackson (Canada) Limited | Dec. 20, 1912 | 1,797,801 88 |

No. 1. Contracts let by the Department of Public Works of Canada, from April 1, 1912, to March 31, 1913—*Continued.*

| Works. | Names of Contractors. | Date of Contract. | Amount. |
|---|---|---|---|
| *Vessels, Dredges and Plant.* | | | $ cts. |
| Construction of two (2) steel hopper scows | The Brown Machine Company, Ltd. | April 8, 1912 | 24,500 00 |
| Supply of 1895 tons of coal for dredge 'W. S. Fielding', per ton | The Dominion Coal Company, Ltd. | April 10, 1912 | 4 75 |
| Supply of 2,000 tons of steam lump coal for departmental dredging plant, for Quebec harbour, Que., for fiscal year 1912-1913 | Canadian Import Company | April 29, 1912 | 9 600 00 |
| Supply of 400 tons of best Scotch or American steam lump coal for departmental dredging plant, for Quebec harbour, Que., for fiscal year 1912-1913, per ton | Canadian Import Company | April 29, 1912 | 5 40 |
| Supply of 100 tons of hard coal, nut size, for departmental dredging plant, for Quebec harbour, Que., for fiscal year 1912-1913, per ton | Canadian Import Company | April 29, 1912 | 7 90 |
| Supply of 800 tons of best quality screened steam lump coal for departmental dredging plant, Rimouski, Que., for fiscal year 1912-1913 | Canadian Import Company | April 29, 1912 | 4,600 00 |
| Supply of coal for departmental dredges and tugs, Provinces of Ontario and Quebec, for the fiscal year 1912-1913 | John Heney & Son, Ltd. | May 10, 1912 | Sched: of prices. |
| Supply of wire rope for departmental dredging plant, for season 1912-1913 | The Dominion Wire Rope Co. Ltd | May 29, 1912 | Sched: of prices. |
| Supply of wire rope for departmental dredging plant, for season 1912-1913 | The General Supply Co. of Canada, Ltd. | May 29, 1912 | Sched: of prices. |
| Supply of steam fittings for departmental dredging plant, for season 1912-1913 | The Canadian Fairbanks Morse Co. Ltd. | June 3, 1912 | Sched: of prices. |
| Supply of steam fittings for departmental dredging plant, for season 1912-1913 | Frotingham & Workman Ltd. | June 3, 1912 | Sched: of prices. |
| Supply of steam fittings for departmental dredging plant, for season 1912-1913 | Scythes & Company, Ltd. | June 3, 1912 | Sched. of prices. |
| Supply of oils and greases for departmental dredging plant, for season 1912-1913 | McCool Bros. & Company | June 3, 1912 | Sched: of prices. |
| Supply of brushes for departmental dredging plant, for season 1912-1913 | Daly and Morin. | June 3, 1912 | Sched: of prices. |
| Supply of steam pipes for departmental dredging plant, for season 1912-1913 | Frotingham and Workman Ltd. | June 3, 1912 | Sched: of prices. |
| Supply of hose for departmental dredging plant, for season 1912-1913 | Canadian Consolidated Rubber Co. Ltd. | June 3, 1912 | Sched. of prices. |
| Supply of hose for departmental dredging plant, for season 1912-1913 | Goodyear Tire Rubber Co. of Canada, Ltd. | June 3, 1912 | Sched: of prices. |
| Supply of paints and paint oils for departmental dredging plant, for season 1912-1913 | The Ottawa Paint Works | June 6, 1912 | Sched. of prices. |
| Supply of chains for departmental dredging plant, for season 1912-1913 | Lewis Bros., Ltd | June 6, 1912 | Sched. of prices. |
| Supply of hardware for departmental dredging plant, for season 1912-1913 | Frotingham and Workman Ltd. | June 6, 1912 | Sched: of prices. |
| Supply of packing for departmental dredging plant, for season 1912-1913 | The Canadian Consolidated Rubber Co. Ltd. | June 6, 1912 | Sched: of prices. |
| Supply of packing for departmental dredging plant, for season 1912-1913 | The Garlock Packing Company. | June 6, 1912 | Sched: of prices. |
| Supply of packing for departmental dredging plant, for season of 1912-1913 | The Dunlop Tire and Rubber Goods Co. Ltd. | June 6, 1912 | Sched: of prices. |
| Supply of Manilla rope for departmental dredging plant, for season 1912-1913 | Consumers Cordage Co. Ltd. | June 13, 1912 | Sched: of prices. |
| Hull repairs and renewals to Str. 'Tyrian' | Arthur Cox and Company | June 22, 1912 | 21,500 60 |
| Supply of 41 knots of D. C. submarine cable, and 1 knot shore end cable | The Imperial Wire & Cable Co. | July 29, 1912 | 25,557 00 |
| Supply of valves and fittings for departmental dredging plant for Victoria, B.C., for season 1912-1913 | W. S. Fraser & Company, Ltd. | July 29, 1912 | *D* Sched: of prices. |
| Supply of fittings and valves for departmental dredging plant for New Westminster, B.C., for season 1912-1913 | Anderson and Lasby. | Aug. 19, 1912 | Sched: of prices. |
| Construction of one 80-foot, single screw steel tug | Polson Iron Works Ltd | Aug 24, 1912 | 31,499 75 |

| | | | |
|---|---|---|---|
| Supply of oils and fittings for departmental dredging plant, for Vancouver, B.C., for 1912-1913 | Simpson, Balkwill & Co. Ltd | Aug 26, 1912 | Sched. of prices. |
| Supply of 1,000 tons of coal for departmental dredging plant, province of Ontario, for season 1912-1913, per ton | Gilhes-Guy Limited | Sept. 16, 1912 | 4 15 |
| Supply of 300 tons of coal for departmental dredges and tugs for Buckingham, for season 1912-1913, per ton | James Sowards Coal Co | Sept. 19, 1912 | 4 71 |
| Supply of 250 tons coal for departmental dredges and tugs for Aylmer, Que. for 1912-1913, per ton | James Sowards Coal Co. | Sept. 19, 1912 | 4 60 |
| Supply of 300 tons of coal for departmental dredges and tugs for St. Johns, Que., for season 1912-1913, per ton | Andrew Baile | Oct. 2, 1912 | 4 28 |
| Construction of one (1) Rock Cutter with spear gear | Lobnitz & Company, Ltd | Oct. 17, 1912 | 38,535 00 |
| Alterations and overhaul to Lobnitz Rock Cutter No. 1 | Wallace Shipyard Ltd | Oct. 24, 1912 | 12,900 00 |
| Supply of coal for departmental dredges and tugs for Montreal and Three Rivers, Que., for season 1912-1913, per ton | The Canadian Import Company | Oct. 29, 1912 | 3 80 |
| Supply of lumber and timber for one (1) $3\frac{1}{2}$ yard dipper dredge | Mason, Gordon & Co | Nov. 11, 1912 | 8,556 93 |
| Supply of white oak and B.C. fir and white pine for four (4) 95 cubic yards hopper scows | Mason, Gordon & Company | Nov. 11, 1912 | 8,702 52 |
| Construction of one (1) large twin screw alligator steam tug | West & Peachy | Nov. 18, 1912 | 3,450 00 |
| Construction of machinery for one (1) $3\frac{1}{2}$ yard dipper dredge | La Cie Pontbriand Ltd | Dec. 30, 1912 | 28,150 00 |
| Construction and delivery of machinery for one (1) $3\frac{1}{2}$ yard dipper dredge | Polson Iron Works Ltd. | Feb. 5, 1913 | 38,750 00 |
| Construction of six (6) 300 cubic yard steel hopper scows | Geo. T. Davie & Sons | Feb. 15, 1913 | 89,100 00 |
| Reconstruction of hull, installation of all machinery and completion of one (1) 20-ton Lobnitz Rock Breaker | Thompson Bros | March 26, 1913 | 15,950 00 |

# STATEMENT No. 2

# PROPERTIES PURCHASED OR SOLD

No. 2.—STATEMENT of properties purchased or sold by the Department of Public Works of Canada from April 1, 1912, to March 31, 1913.

| Date of Conveyance. | Vendors. | Purchasers. | Description of Property. | For what Purpose. | Area. | Price. |
|---|---|---|---|---|---|---|
| 1912. | | | | | | $ cts. |
| April 3 | Alex. Mills, *et ux* | His Majesty | Sale of land, lot 'A,' block H, Eganville, Ont | | 1·5 acre | 2,000 00 |
| " 3 | Mary Kerr, *et al* | " | Release of parcel of land, Chatham, N.B., expropriated land. | Site for Post Office | 0·50 acres | 300 00 |
| " 6 | Isabella C. Dick | " | Release for expropriated land, Craven Dam, Sask., expropriated land | Government purpose | | 5,240 00 |
| " 8 | N. A. Bartlett, *et al* | " | Sale of lot No. 16 (Gore), Sandwich St., Windsor, Ont | | | 1,000 00 |
| " 10 | G. T. Turley and R. H. Noble | " | Sale of lots Nos. 1 and 2, block 1, Minnedosa, Man | Site for Public Building | | 5,500 00 |
| " 10 | Joseph Bushby | " | Release of southwest ¼, sect. 38, and southeast ¼, sect. 33, Craven Dam, Sask., expropriated land | Government purposes | 57·27 acres | 9,598 45 |
| " 12 | Egan Estate Co., of Ottawa, Ltd | " | Sale of lots 'A,' 'B,' 'C,' portion of lot No. 30, Sparks and Wellington streets, Ottawa, Ont | Government purposes | | 235,000 00 |
| " 13 | The Renous Bridge Lumber Co | " | Sale of portion of wharf and property, Millerton, N.B | Government purposes | 0·19 acres | 2,100 00 |
| " 16 | John O'Toole | " | Release of all claims for rental of plant *re* dredging channel, Otonabee River, Ont | | | 2,943 00 |
| " 16 | Isabella C. Dick | | Expropriated land at Craven Dam, Sask | Government purposes | 160 acres | 905 00 |
| " 17 | J. B. Klock | " | Expropriated land at Quinze Lake Dam, Que | | 399·4 acres | |
| " 20 | Charles Kuehner, *et ux* | " | Sale of easterly part of lot No. 9, and westerly part of lot No. 8, Durham road, Hanover, Ont | Public Building site | | 2,363 88 |
| " 21 | J. P. Healey, *et ux* | " | Sale of east ½ of lot No. 1, Port Arthur, Ont | | | 8,500 60 |
| " 24 | R. J. Stevens | " | Sale of land, Musquodoboit Harbour, N.S | Site for wharf | 1/10 of an acre | 30 00 |
| " 25 | Notice of Expropriation | | Expropriated land, part of lot No. 164, St. Andrews Rapids, Man | Improvements in Red River, Man | | |
| " 26 | H. T. Webb, *et al* | His Majesty | Sale of land, Brighton, Ont | Site for wharf | | 6,874 00 |

No. 2.—STATEMENT of properties purchased or sold by the Department of Public Works of Canada from April 1, 1912, to March 31, 1913—*Continued.*

| Date of Conveyance. | Vendors. | Purchasers. | Description of Property. | For what Purpose. | Area. | Price. |
|---|---|---|---|---|---|---|
| 1912. | | | | | | $ cts. |
| April 29 | S. Jane Crawley | His Majesty | Sale of lot No. 11, block 17, Chilliwack, B.C. | Public Building site | | 800 00 |
| " 30 | Jacob Buncho and wife | " | Sale of land at Milverton, Ont. | Public Building site | | 1,650 00 |
| " 30 | C. R. Dunsford | " | Sale of lots Nos. 9 and 10, block 23, Morden, Man. | Public Building site | | 2,000 00 |
| May 2 | J. E. Taggart | " | Sale of a piece of land, part of block No. 135, Division st., Ottawa, Ont. | Site for explosives testing station | | 6,350 00 |
| | | | | | less | 181 00 |
| " 2 | E. A. Rivers | " | Sale of land, part of block No. 135, Division st., Ottawa, Ont. | Site for methylated spirits warehouse | | 5,000 00 |
| | | | | | less | 223 36 |
| " 3 | John Cardell | " | Sale of lots Nos. 21 to 24, block 70, Calgary, Alta. | Site for examining warehouse | | 60,030 00 |
| " 3 | A. L. Cameron and W. Robertson | " | Sale of lots Nos. 25 and 26, block 70, Calgary, Alta. | Site for examining warehouse | | 20,000 00 |
| " 17 | J. A. Harvey's heirs | " | Sale of lot No. 1427, St. John, N.B. | Site for armoury | 42 ft., 8 in. x 105 ft. | 1 00 |
| " 18 | M. E. Marks, *et al* | " | Sale of part of lot No. 1, west side of south Water st., Port Arthur, Ont. | | | 5,000 00 |
| " 20 | Capt. A. R. Bissett | " | Bill of sale of tug 'Prospective' | | | 14,000 00 |
| " 22 | W. W. Kidd, *et al et ux* | " | Sale of land, part of original lot No. 9, Grimsby, Ont. | Public Building site | 52 ft. x 125 ft. | 2,500 00 |
| " 25 | Cornelius Tatton, *et ux* | " | Sale of land, Castalia (Grand Manan), N.B. | Site for public wharf | 0·19 acres | 300 00 |
| " 29 | John Alexander Stewart, *et ux* | " | Sale of lot No. 4, northerly part of lot No. 3, Cockburn Island, Perth, Ont. | | | 7,750 00 |
| " 29 | Annie Jane Martin | " | Expropriated land, south ½ of lot No. 23, east side of Kent St., Ottawa, Ont. | Site for departmental buildings | | 14,000 00 |
| " 30 | A. Maud Boyd, *et al* | " | Sale of land, Gananoque, Ont. | Site for Post Office building | 61 ft. x 126 ft. | 7,250 00 |

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|---|---|---|---|---|---|---|---|
| " | 30 | C. Williams | " | Release of lot No. 5, Gore 'A,' Springer, Stugreon Falls, Ont | Headquarters, Dredge 'Mattawa' | 1.53 acres | 400 00 |
| " | 31 | Allan Guerard, *et al* | " | Sale of lot No. 1, west side of south Water st., Port Arthur, Ont | | | 13,877 50 |
| June | 3 | Alex. G. Guerard, *et ux* | " | Sale of part of lot No. 1, west side of south Water st., Port Arthur Ont | | | 17,875 00 |
| " | 3 | Alex. G. Guerard, *et ux* | " | Sale of part of lot No. 1, west side of south Water st., Port Arthur, Ont | | | 13,877 50 |
| " | 4 | W. C. Woodworth | " | Expropriated land at Delap Cove, N.S. | Site for wharf | 0·44 acres | 30 00 |
| " | 4 | Notice of Expropriation | | Expropriation of land at Stellarton, N.S. | Site for public building | 6,240 sup. feet | |
| " | 4 | W. A. Hogg, *et ux* | His Majesty | Sale of lots Nos. 6 and 7, Collingwood, Ont | Site for public building | 81 ft. 1 in. x 166 ft. | 12,500 00 |
| " | 6 | J. D. McNeil, *et ux* | " | Sale of land, Orangedale, Ont | Site for wharf | 0·13 acres | 75 00 |
| " | 8 | Wm. Laurent | " | Sale of land, Louiseville, Que | Site for public building | 8,500 ft | 2,707 00 |
| " | 13 | F. C. Lowse & Co. and E. M. Adams | " | Sale of lots 27 and 28, block 70, Calgary, Alta | Site for examining warehouse | | 20,000 00 |
| " | 13 | V. Laflamme | " | Sale of land at Haileybury, Ont | For Government shipyard | 2·07 acres | 300 00 |
| " | 25 | J. H. Hinds, *et ux* | " | Sale of land at Battery Point, N.S. | For Breakwater | | 100 00 |
| " | 26 | James A. Britt, *et ux* | " | Sale of part of lot No. 5, Yonge St., North Toronto, Ont | Site for Post Office | 130 ft. x 235 ft | 25,000 00 |
| " | 29 | A. E. Fitzgerald, *et vir* | " | Sale of lot No. 1, west side of Queen st., Lakefield, Ont | Site for public building | | 2,000 00 |
| July | 8 | James Johnston | " | Sale of portion of sub-lot 'C,' subdivision of lot No. 6983, Group 1, Boswell, B.C | | 0·49 acres | 1 00 |
| " | 9 | James Coupland | " | Sale of portion of sub-lot 'C' subdivision of lot 6983, Group 1, Boswell, B.C | | 212 sq. ft | 1 00 |
| " | 9 | The City of Edmonton | " | Transfer of part of river lot No. 8, Edmonton, Alta | Site for wharf | ·637 acres | Free transfer. |
| " | 9 | G. W. Hatton | " | Sale of land, Peterborough, Ont | Site for wharf | 1·7 acres | 13,000 00 |
| " | 10 | David G. Miller, *et ux* | " | Sale of land and buildings at Miller's Cove N.S | Site for wharf | 6,250 ft | 75 00 |
| " | 10 | Province of New Brunswick | " | Transfer of wharf, land and right of way from public road to wharf at Trynors Cove, N.B | | | Free transfer. |
| " | 17 | John Costigan | " | Sale of part of lot No. 1172, Montreal, Que. | Site for Postal Station 'F' | 50 ft. x 102 ft | 22,000 00 |
| " | 20 | D. E. McLean | " | Sale of land at Fourchu, N.S. | Site for wharf | 4,900 ft | 1,200 00 |
| " | 25 | John Hureau, *et ux* | " | Sale of land at Cape Auget, N.S. | Site for wharf | 12,960 sq. ft | 50 00 |
| " | 31 | James Lyle | " | Sale of land, lot No. 5, block 5, Yukon 40 mile townsite | Telegraph office | | 150 00 |
| Aug. | 3 | The Town of Wadena | " | Sale of lots Nos. 1 and 2, block 'A' townsite of Wadena, Sask | Government purposes | | Free grant |
| " | 3 | Maria Rhindress | " | Sale of land at Cape Auget, N.S. | Site for wharf | 76,230 sq. ft | 100 00 |
| " | 5 | Canadian General Development Co., Ltd | " | Bill of sale of tug 'Sogenada' | | | 20,000 00 |
| " | 7 | Wellington Colliery Co. Ltd. | " | Conveyance of land at Union Bay, B.C. | Site for public building | 0·275 acres | 1 00 |
| " | 14 | James MacFarlane | " | Sale of lot No. 103 and part of lot No. 102, cor. East Queen and Salter sts., at Toronto, Ont | Site for Postal Station 'G' | | 35,000 00 |

No. 2.—Statement of properties purchased or sold by the Department of Public Works of Canada from April 1, 1912, to March 31, 1913—*Continued.*

| Date of Conveyance. | Vendors. | Purchasers. | Description of Property. | For what Purpose. | Area. | Price. |
|---|---|---|---|---|---|---|
| 1912. | | | | | | $ cts. |
| Aug. 14 | Andrew and Robert and A. F. P. Loggie, *et al* | His Majesty | Sale of land at Richibucto, N.B | For breakwater | 1·20 acres | 125 00 |
| " 16 | Paul Doucet | " | Sale of a piece of land, cadastral lot No. 31, Grande Mere, Que | Site for public building | | 15,000 00 |
| " 16 | La Corporation de St. J. Bte. de la Pte. aux Trembles, Que | " | Transfer of wharf property at St. J.-Bte. de la Pte. aux Trembles, Que | | 2,854 sq. ft | *W* |
| " 19 | Carl Nispel, *et al* | " | Sale of lot No. 13, Preston, Ont | Site for public building | 66 ft. x 165 ft | 6,000 00 |
| " 22 | W. H. Finch, *et ux* | " | Sale of north part of lot No. 83, Talbot road, Aylmer, Ont | Site for public building | 5,353½ sq. ft | 2,000 00 |
| " 27 | Notice of Expropriation | | Expropriated land at Kingsville, Ont | Site for public building | | |
| " 28 | D. C. McKinley and wife | His Majesty | Sale of land at Franklyn Point, P.E.I | Site for wharf | | 1,100 00 |
| " 28 | N. A. Ackerman, *et vir* | " | Sale of land, north ½ of lots Nos. 1 and 2, Midland, Ont | Site for public buidling | | 4,750 00 |
| Sept. 3 | His Majesty | Guelph Goderich Ry. Co | Sale of land at Goderich, Ont | | 3·1 acres | 55 00 |
| " 3 | Wm. Henderson | His Majesty | Sale of lots Nos. 2 and 3, block 10, Duncan Station, B.C | Site for public building | 60 ft. x 120 ft | 10,600 00 |
| " 3 | W. Beazley *et al* | " | Sale of land at Herring Cove, N.S | Approach to wharf | 1,954 sq. ft | 200 00 |
| " 6 | Angus B. McLean *et ux* | " | Sale of land at Severn Bridge, Ont | Site for public building | 0·17 acres | 2 00 |
| " 7 | James Matthews *et ux* | " | Sale of northwesterly part of lot No. 10, block 13, Acton, Ont | Site for public building | 66 ft. x 100 ft | 2,700 00 |
| " 9 | His Majesty | H. Yapp | Sale of parcel of land, part of block 20, Hamilton, Ont | | 2-5 acre | 8,900 00 |
| " 10 | Fred. Jos Martin *et ux* | His Majesty | Sale of part of lot No. 14, Milton, Ont | Site for public building | 105 ft. x 100 ft | 1,750 00 |
| " 10 | James Elliott | " | Sale of land at Westmount, Que | Site for Postal station | 90 ft. x 102 ft | 28,000 00 |
| " 10 | Harry H. Marshall *et ux* | " | Sale of land and buildings at Bear River, N.S | Site for wharf | | 1,800 00 |
| " 12 | Capt. A. R. Bissett | " | Bill of sale of remains of tug 'Princess' | | | 1,500 00 |
| " 14 | Adelaide Wilson | " | Sale of land at Midland, Ont | Site for public building | | 2,500 00 |
| " 16 | His Majesty | The City of Three Rivers | Grant of land at Ile St. Christophe and Ile Caron, Que | For public road | 102,992 ft | 1 00 |
| " 19 | La Corporation Scolaire du Village de St. Jerome de Matane, Que | His Majesty | Sale of lots Nos. 151 and 152 at St. Jerome de Matane, Que | | | 25 00 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| " | 19 | Dame L. B. Payette | " | Sale of lots Nos. 329, 330 and 331, and part of lot No. 328, at Montreal, Que | Site for Postal Station 'S' | 80 ft. x 100 ft | 20,000 00 |
| " | 23 | O. M. Helgerson | " | Sale of lots Nos. 1, 2, 3, 4, 5 and 6, at Fort William, Ont | Site for customs and examining warehouse | | 48,000 00 |
| " | 23 | E. D. Godon | " | Sale of land, being lots Nos. 12a86 and 12a91 at St. Agathe des Monts Que | Site for public building | 75 ft. x 100 ft | 2,000 00 |
| " | 23 | John Cameron *et ux* | " | Sale of land at Creignish, N.S | Site for wharf | 65,800 ft | 100 00 |
| " | 24 | The Fort William Terminal Railway and Bridge Co. | " | Sale of lot No. 16, con. 'K' at FortWilliam Ont | Improvements in Kaministiquia river, Ont | 6·21 acres | 1 00 |
| " | 24 | Adeline Gamon | " | Sale of parts of lots Nos. 3 and 4, block 2, with roadway, at Shelburne, Ont | Site for public building | 86 ft., 6 in. x 63 ft., 4 in. | 1,200 00 |
| " | 24 | Dominique Gosselin | " | Sale of n.w. ½ of lot No. 55 and whole of lot No. 56, at Weedon, Que | | | 1,800 00 |
| " | 28 | W. W. Hyland | " | Sale of lots Nos. 170 and 171 at Steelton, Ont | Site for public building | 80 ft. x 120 ft | 10,000 00 |
| " | 28 | J. M. Barnes *et ux* | " | Sale of land at Hampton, N.B | Site for public building | 100 ft. x 72$\frac{5}{10}$ feet | 700 00 |
| " | 28 | Notice of Expropriation | | Expropriation of land at Fort William, Ont | For terminal basin | 22·7 acres | 225 00 |
| " | 30 | Leonard Martin *et ux* | " | Sale of land at Salmon River, N.B | For pier | $\frac{1}{11}$ acres | 200 00 |
| Oct. | 3 | James Oliver *et ux* | " | Sale of n.w. part of lot No. 3, Wellington st., Ottawa, Ont., andpart of n.w. ½ of lot No. 3, Wellington st., Ottawa, Ont. | Site for departmental buildings | 24 ft. x 200 ft | 56,052 88 |
| " | 9 | Jacques Cartier | " | Sale of part of lot No. 65 at St. Antoine de Vercheres, Que | Site for wharf | 140 ft. x 120 ft | 1,200 00 |
| " | 9 | D. D. McGillivray *et ux* | " | Sale of land, lot No. 3, Park st., Port Arthur, Ont | Site for armoury | | 3,400 00 |
| " | 10 | Jacob Rose | " | Sale of land, north side of Wellington st., Ottawa, Ont | Site for departmental buildings | | 19,140 00 |
| " | 11 | Mary C. Kennedy | " | Sale of lot No. 18, south side of Vittoria St., Ottawa, Ont | Site for departmental buildings | | 17,700 00 |
| " | 14 | Can. Pac. Ry. Company | " | Sale of lot No. 141, part of lot No. 142, Sudbury, Ont | Site for public building | | 20,000 00 |
| " | 16 | Notice of Expropriation | | Expropriation of lots Nos. 14 and 16, Windsor, Ont | For landing dock | | |
| " | 17 | John McGillivray | His Majesty | Sale of lot No. 12, block 12, Ashcroft, B.C | Site for public building | 50 ft. x 120 ft | 1,500 00 |
| " | 17 | Abraham Pratt | " | Sale of portions of lots Nos. 9 and 10, west side Kent st., Ottawa, Ont | Site for departmental buildings | | 61,946 00 |
| " | 17 | The Capital Real Estate Co. Ltd | " | Sale of westerly part of lot No. 14, west side Kent st., Ottawa, Ont | Site for departmental buildings | | 12,500 00 |

No. 2. STATEMENT of properties purchased or sold by the Department of Public Works of Canada from April 1, 1912, to March 31, 1913—*Continued.*

| Date of Conveyance. | Vendors. | Purchasers. | Description of Property. | For what Purpose. | Area. | Price. |
|---|---|---|---|---|---|---|
| 1912. | | | | | | $ cts. |
| Oct. 17. | Mary Jane Lindsay | His Majesty | Sale of lots Nos. 12 and 13, west side of Kent st., Ottawa, Ont., and part of lot No. 15, s. side of Vittoria st., Ottawa, Ont. | Site for departmental buildings | | 54,500 00 |
| " 21 | A. W. Hoffer *et ux* | " | Sale of lot No. 32 at Elmira, Ont | Site for public building | ¼ acre | 2,050 00 |
| " 25 | Findlay and Howard Ltd | " | Sale of land, corner St. Catharines and Bishop sts., Montreal, Que | Site for Postal Station 'H' | 71 $\frac{5}{10}$ ft. x 130 $\frac{3}{10}$ ft. | 281,025 00 |
| " 26 | Fred. W. D. Jones | " | Sale of easterly portion of n. ½ of lot No. 1 at Newmarket, Ont | Site for public building | | 2,650 00 |
| " 29 | Dame Eugenie Frigon | " | Sale of part of lot No. 1, sub-division of lot No. 580, Malbaie Village, Que | Site for public building | 60 ft. x 100 ft | 7,900 00 |
| Nov. 12 | The Imperial Motor Co., Ltd | " | Sale of lot No. 6 and part of lot No. 7, block 'D,' at Toronto, Ont | For Toronto Postal motor garage | | 80,000 00 |
| " 12 | C. F. Beattie | " | Expropriation of land at Carrsbrook, N.S. | Approach to breakwater | ½ acre | |
| " 15 | F. C. Anderson | " | Sale of lots Nos. 355 and 356, east side, Portage ave., Fort Frances, Ont | Site for public building | 165 ft. x 132 ft | 16,500 00 |
| " 22 | Notice of Expropriation | | Expropriation of land at Albert, N.B. | Site for wharf | | |
| " 29 | Sam. Elkins | His Majesty | Sale of lots Nos. 1 and 2 block 56, sub-division 1 and 2, Vancouver, B.C. | For postal station "C" | | 40,000 00 |
| " 29 | Dame Cecile Vezina | " | Sale of lots Nos. 232-50 and 52 and 232-51, St. Gabriel de Brandon, Que | Site for public buidling | 11,765 sq. ft. | 2,000 00 |
| " 30 | Elma Burns Carroll *et al* | " | Sale of lots Nos. 1,2,3, and part of lot No. 4, Cor. Spadina and Oxford avenues, Toronto, Ont. | Site for Postal Station | | 64,000 00 |
| " 30 | Geo. W. Hatton *et al* | " | Sale of land at Peterborough, Ont. | Site for wharf | 1·7 acres | 14,049 00 |
| Dec. 1 | J. H. McDonald *et ux* | " | Sale of land at Listowell, Ont. | Site for public building | 9 perches | 1,700 00 |
| " 2 | Expropriation of land | | Expropriation of land at French River, N.S. | For breakwater and right of way | 50,800 sq. ft. and 27,720 sq. ft | |
| " | The Corporation of Township of Front of Leeds and Lansdowne | His Majesty | Sale of lands, composed of part of road allowance between lots Nos. 18 and 19, with wharf, Lansdowne township, Ont. | Government purposes | | 1 00 |

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| " | 4 | Notice of Expropriation | | Expropriation of part of lot No. 2237, 2238 and 2239, Quebec city, Que | " | 354 sq. ft., 784 sq. and 1,997 sq. ft | | |
| " | 4 | Isidore Morin | His Majesty | Sale of part of lot No. 32, Gaspe, Que | Site for public building | 59 ft. x 44½ ft. | | 300 00 |
| " | 4 | Rev. Fabien Gauthier | " | Sale of part of lot No. 32, Gaspe, Que | Site for public building | 48 ft. x 44½ ft | | 500 00 |
| " | 11 | J.L. Peck, M. Peck and Mary J. Stiles | " | Sale of land, parish of Hopewell, Albert Co., N.B | Site for wharf | 0·45 acres | | 125 00 |
| " | 12 | George H. Bindon *et al* | " | Sale of part of lot No. 32, n. side of Wellington st., Ottawa, Ont | Site for departmental buildings | 33 ft. x 90 ft | | 20,680 00 |
| " | 13 | The Ontario Bank | " | Release of part of east portion of lot No. 6, con. 'F'—Island No. 1 | Improvements in Kaministiquia river | 1·86 acres | | |
| | | | | Release of part of lot No. 5, con. 'F' | Improvements in Kaministiquia river | 2·02 acres | | 6,960 00 and interest from 11 May, 1910 |
| | | | | Release of part of lot No. 4, con. 'F' | Improvements in Kaministiquia river | 1·97 acres | | |
| | | | | Release of part of w. ½ of lot No. 3, con. 'G', Island No. 1, Fort William, Ont | Improvements in Kaministiquia river | 1·11 acres | | |
| " | 24 | Notice of Expropriation | | Expropriation of land at Ruisseau a la Loutre, Matane Co., Que | Harbour improvements | 22516 sq. ft | | |
| " | 24 | Notice of Expropriation | | Expropriation of land at Capilano River, B.C | For dam | ·336 acres | | |
| " | 27 | Duncan J. McDonald | His Majesty | Sale of land: 1st, an emplacement fronting Elgin st., Montreal, St. Laurent's Ward | For Postal Station "St. Lawrence Ward" | 96 ft. 6 in. x 74 ft., 6 in | | |
| | | | | Sale of land: 2nd, a portion of lot No. 105, Montreal, Que | " " | | | 36,002 00 |
| | | | | Sale of land: 3rd, part of lot No. 106, Montreal, Que | " " | | | |
| " | 28 | Notice of Expropriation | | Expropriation of land at Miltown, N.B | Site for public building | | | |
| " | 28 | Estate of late U. J. Tessier and of his wife | His Majesty | Release of cadastral lot No. 519, Rimouski, Que., expropriated land | Approach for breakwater wharf | 95 813 Eng. sq. ft. | $ | 2,009 00 |
| | 30 | James Lauder | " | Release of n.e. ¼ of sect. 28, township 20, range 21, Craven Dam, Sask., expropriated land | Government purposes | 142·52 acres | $ | 4,753 97 |
| | 30 | J. C. Simpson and H. C. Simpson | " | Sale of lots Nos. 12, 13, and 14, block 102, Virden, Man | Site for public building | | $ | 6,200 00 |
| | 1913. | | | | | | | |
| Jan. | 2 | G. E. Frauley *et ux.* and J. H. Frauley | " | Sale of land at St. George, N.B | Site for public building | | $ | 1,600 00 |
| " | 9 | The Perley Home for Incurables | " | Sale of land, lot 'A' No. 3, Wellington st., Ottawa, Ont., also lot A2 and tract of land and parcel of land adjoining lot lettered 'B' Wellington St., Ottawa, Ont | Site for departmental buildings | 31 360 sq. ft | | |
| | | | | | Site for departmental buildings | 4 160 sq. ft | | 96,250 00 |

No. 2. STATEMENT of properties purchased or sold by the Department of Public Works of Canada from April 1, 1913, to March 31, 1913—*Continued.*

| Date of Conveyance. | Vendors. | Purchasers. | Description of Property. | For what Purpose. | Area. | Price. |
|---|---|---|---|---|---|---|
| | | | | | | $ cts. |
| Jan. 13 | Notice of Expropriation | His Majesty | Expropriation of lots, Nos. 513, 514 and 569 St. Charles river, Que | Lock, dam and sluiceways. | 2,619,565 sq. ft | |
| " 14 | Thomas A. Shirley and Bella Shirley | " | Sale of land, with house, at Milltown, N.B. | Site for public building | | 2,000 00 |
| " 15 | Notice of Expropriation | " | Expropriation of land at Levis, Que | Site for new dry dock | | |
| " 18 | Robert Fraser and Alice D. Fraser (his wife) | " | Sale of land at Grand Manan (Seal Cove) N.B. | For breakwater | 0·54 acres | 200 00 |
| " 20 | His Majesty | Alphee Kimpron | Sale of cadastral lots Nos. 111 and 228, Ste. Therese de Blainville, Que | Site for public building | | 3,600 90 |
| " 21 | F. W. Pickels *et ux* | His Majesty | Sale of land east side of Annapolis river, Annapolis, N.S. | | 1925 sq. ft | 1 00 |
| " 21 | R. H. Jackson | " | Sale of portion of lot No. 15, north of Victoria st., Ottawa, Ont | Site for departmental buildings | | 16,140 00 |
| " 22 | Notice of expropriation | | Expropriation of land at Hespeler, Ont | Site for public building | ½ of an acre | |
| " 24 | La Cie de Navigation Richelieu and Ontario | His Majesty | Sale of land at Village de Vercheres, Que. | For monument to Madeleine de Vercheres | 100 ft. x 100 ft | 200 00 |
| " 27 | Willis James West | " | Sale of lot No. 20, block 1, Soda Creek, B.C. | Site for public building | | 125 00 |
| " 30 | James E. Russell | " | Sale of part of lot No. 33, Victoria and John sts., Ottawa, Ont | Site for departmental buildings | | 14,740 00 |
| " 31 | Catherine Bishop | " | Sale of part of w. ½ of lot No. 5, Wellington st., Ottawa, Ont | Site for departmental building | | 30,910 00 |
| " 31 | Catherine Bishop | " | Sale of lot No. 8, n. side of Wellington st., and portion of lot No. 11, w. side of Kent st., Ottawa, Ont | Site for departmental buildings | | 68,480 00 |
| " 31 | Catherine Bishop | " | Sale of portion of lot No. 11, w. side of Wellington st., Ottawa, Ont | Site for departmental buildings | | 9,500 00 |
| Feb. 3 | Notice of Expropriation | | Expropriation of land and roadway at Campbellford, Ont. | Site for public building | 0·23 acres | |
| " 4 | F. W. Haynes | His Majesty | Sale of lot Nos. 331 and 334, New Liskeard, Ont | | 13,540 sup. ft | 187 50 |

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|---|---|---|---|---|---|---|
| " 7 | Florence Bauldry | " | Release of lots Nos. 216, 220 and 225 at Latchford, Ont., expropriated land | | | 675 00 |
| " 8 | Alfred J. Echlin *et ux* | " | Sale of parcel of land at Round Hill, N.S. | Site for wharf | 1st lot, 4,950 sq. ft.<br>2nd lot, 495 sq. ft. | 100 00 |
| " 11 | The Hon Haughton Lennox *et ux* | " | Sale of land, water lot, at Kempenfeldt, Ont | Site for wharf | 0·50 acres | 1 00 |
| " 13 | Notice of Expropriation | | Expropriation of part of northerly part of | | | |
| Feb. 14 | Alex. C. AuCoin and E. AuCoin | His Majesty | lot No 13, Garafraxa st., Durham, Ont. Sale of land and premises at Cape Rouge, N.S. | Site for public | 40 ft. x 78 ft. | |
| | | | | Site for public wharf | | $ 175 00 |
| " 22 | Notice of expropriation | | Expropriation of land at Severn Bridge, Muskoka District, Ont | Right of way to wharf | ·028 acres | |
| " 24 | J. W. Horne | " | Sale of east 80 ft. lots 21, 23, 24 and 25, block 76, Mission City, B.C. | Site for public building | 80 ft. x 120 ft | 6,000 00 |
| " 26 | Mrs. Annie Thompson | " | Sale of lot No. 345, n. side of Scott st., New Liskeard, Ont | Temiskaming reservoir | | 187 50 |
| " 27 | Notice of Expropriation | | Expropriation of land at Vancouver, B.C. | Site for wharf | 10·13 acres | |
| " 28 | Town of St. Laurent | | Cession a titre gratuit of 4 lots Nos. 89, 90, 91 and 92 of cadastral No. 465, each lot measuring (28 ft., 9 in. x 100 ft.) also a portion of lot No. 84 (15 ft. x 115 ft.) at St. Laurent, Que | Site for public building<br>" | 115 ft. x 100 ft.<br>15 ft. x 115 ft. | Free Grant. |
| Mar. 5 | The Wilson Box Co | His Maesty | Sale of land and buildings at Brundages Point, N.B | Site for wharf | 3,852 sq. ft. | 1 00 |
| " 11 | Robt. Chezley Tait and Minnie E. Tait | " | Sale of land at Shediac, N.B | Site for public building | | 1,100 00 |
| " 12 | John B. Radcliffe | " | Sale of lot No. 19, block 10, district 125 group 1, Merritt, B.C. | Site for public building | | 1,400 00 |
| " 12 | Andrew Kallin | " | Sale of lot No. 20, block 10, district 125 group 1, Merritt, B.C | Site for public building | | 2,500 00 |
| " 19 | W. D. Cameron *et al* | " | Sale of land at Watford, Ont | Site for public building | | 2,250 00 |
| " 19 | Jacob Brown *et al* | " | Sale of land being composed of northerly ¼ and easterly 45 lineal ft. of south ½ of north ½ of lot No. 9, e. side Main st., at Watford, Ont | Site for public building | | 350 00 |
| " 22 | Frs. St. Gelais | " | Sale of part of lot No. 46, together with wharf, at Ruisseau à la Loutre, Que, | | 35,850 ft | 1,200 0 |
| " 24 | W. J. Stevenson | " | Sale of south ½ of lot No. 2, Yonge st., Aurora, Ont | Site for public building | 50 links x 3 chains and 38 links | 2,000 00 |
| " 25 | Alfred Bibeau | " | Sale of strip of land at Ste. Victoire, (Richelieu Co.) Que<br>also another piece of land, part of cadastral lot No. 28, at Ste. Victoire, Que. | Site for wharf<br>Site for wharf | 30 ft. x 310 ft<br>70 ft. x 50 ft. | 50 00 |
| " 27 | Gordon Runkle | " | Sale of lots Nos. 25, 26, 27 and 28, subdivision of lot No. 4, block 15, at Capilano, B.C. | Capilano River dam | | 2,500 00 |
| " 29 | John O. Pennington | " | Release of n.w. ¼ of section 32, township 20, range 21, w. of 2nd meridian, expropriated land | Craven dam | 20·47 acres | 511.75 plus interest $185.84 |

No. 3.—STATEMENT of properties leased to and by the Department of Public Works of Canada from April 1, 1912, to March 31, 1913.

| Date of Lease. | Lessors. | Lessees. | Description of Property. | For what Purpose. | Duration of Lease. | Rental. |
|---|---|---|---|---|---|---|
| 1912. | | | | | | $ cts. |
| April 1 | G. Harms | His Majesty | Lease of premises at Herbert, Sask. | Immigration | 6 months | $25 per month. |
| " 1 | The Canadian Pac. Ry. Co | " | Lease of space in telegraph office at Edmonton, Alta | Government telegraph agent | | $15 per month. |
| " 2 | J. B. Griffiths | " | Lease of building at Stettler, Alta. | Immigration | 3 months | $20 per month. |
| " 3 | Henry Birks & Sons, Ltd | " | Lease of the whole five (5) upper floors and portion of basement in new Rosenthal building, Ottawa, Ont. | For Marine and Fisheries, Inland Revenue and Public Works Depts | 5 years | $17,000 per annum. |
| " 20 | Royal Trust Company | " | Lease of premises, No. 26, Wellington st., Ottawa, Ont. | Government purposes | 6 months | $275 per month. |
| " 23 | His Majesty | Paul Iverson | Lease of premises No. 46, w. side of Lyon st., Ottawa, Ont. | Private enterprise | 6 months | $15 per month. |
| " 23 | " | Eva Lesperance | Lease of premises No. 28, w. side of Lyon st., Ottawa, Ont | " | 6 months | $16 per month. |
| " 23 | " | Robert Spencer | Lease of premises No. 16, w. side of Lyon st., Ottawa, Ont. | " | 6 months | $10 per month. |
| " 23 | " | W. J. Allan | Lease of ground floor, No. 28, Lyon st Ottawa, Ont. | " | 6 months | $15 per month. |
| " 23 | " | U. Benoit | Lease of ground floor, front apartment No. 28 Lyon st., Ottawa, Ont. | " | 6 months | $17 per month. |
| May 3 | " | Alex. Baker, jr. | Lease of premises, 2nd floor, 345½ Wellington st., Ottawa, Ont | " | Monthly tenancy. | $20 per month. |
| " 3 | L. Munroe | His Majesty | Lease of two (2) rooms in Munroe building, Hamilton, Ont | Immigration purposes | Monthly tenancy. | $20 per month. |
| " 7 | The Merchants Bank of Canada | " | Lease of building at Sedgewick, Alta. | Government purposes | 5½ months | $30 per month. |
| " 9 | His Majesty | J. E. W. Currier | Lease of ground floor apartment, No. 26 Lyon st., Ottawa, Ont | Private enterprise | Monthly tenancy. | $30 per month. |
| " 10 | " | Geo. S. Middlemass | Lease of 2nd floor, rear apartment, No. 28 Lyon st., Ottawa, Ont | " | " | $14 per month. |
| June 1 | " | Annie Grant | Lease of premises No. 39 Kent st., Ottawa, Ont. | " | " | $10 per month. |

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|---|---|---|---|---|---|---|---|
| " | 6 | " | Ottawa Electric Company | Lease of hydraulic lots, 'K', 'L,' 'M,' 'N,' 'O,' and 'P,' Chaudiere island, Ottawa, Ont | " | 21 years (renewable) | $100 per annum. for each lot. |
| " | 8 | Conseil Mnuicipal de Ste. Rose | His Majesty | Lease of w. ½ of house at Ste. Rose, Que. | Post Office Department | 5 years | $200 per annum. |
| " | 10 | His Majesty | Ottawa Electric Ry. Company | Lease of hydraulic lots 'Q,' R', 'S,' and 'T' Victoria island, Ottawa, Ont | Private enterprise | 21 years | $100 for each lot per annum. |
| " | 10 | " | J. J. O'Meara | Lease of premises No. 359 Wellington St., Ottawa, Ont | " | Monthly tenancy | $17 per month. |
| " | 15 | The Irvine School District No. 892 | His Majesty | Lease of building at Irvine, Alta. (20 ft. x 38 ft.) | Immigration | 1 year | $15 per month. |
| " | 21 | The Grand Trunk Pac. Ry. Co | " | Lease of each of the several sections of wharfing at Fort William (Mission Riv.), Ont | Government purposes | 50 years | 1st 2 sections $1,000 per annum. |
| " | 28 | His Majesty | John Kane | Lease of premises No. 50 Lyon St., Ottawa, Ont | Private enterprise | Monthly tenancy | $25.per month. |
| July | 1 | Eveleen Byrne | His Majesty | Lease of premises at Fredericton, N.B. | Immigration | From 1st July '12 to 1st May '15 | $400 per annum. |
| " | 1 | His Majesty | Canadian Pacific Ry. Co | Lease of land, portion of Beacon Bar Flats, land adjacent St. John West, N.B. | Private enterprise | 279,000 sq. ft. 5 yr. | $1 per annum. |
| " | 4 | Beardmore & Co | His Majesty | Lease of room, 1st floor Beardmore building, Montreal, Que | Chief Engineers' Branch | 9 months and 27 days | $800. |
| " | 4 | J. S. McDonald | " | Lease of lot No. 13, block 2, and buildings thereon, at Sedgewick, Alta | Immigration purposes | 4 months. | $25 per month. |
| " | 11 | Albert E. Brown (Rodier Estale) | " | Lease of stone house No. 306 St. Antoine st., Montreal, Que | Government purposes | 1 year | $3,500 per annum. |
| " | 22 | Winnipeg Joint Terminals | " | Lease of room in the new Union Station, Winnipeg, Man | Mail purposes | 5 years | $2,416 per annum. |
| " | 30 | James A. Kenny | " | Lease of room in ground floor of building, Bridge st., Liverpool, N. S. | For Inspector department-al dredging plant | 1 year | $50 per annum. |
| Aug. | 2 | His Majesty | Bras d'Or Yacht Club | Lease of land at Baddeck, N.S. | 2,400 sq. ft. | During pleasure | $1 per annum. |
| " | 5 | Alex. Leask | His Majesty | Lease of portion of building, lot No. 1,block 9, North Battleford, Sask. | Immigration | 5th Aug. '12 to 5th May '13 | $50 per month. |

No. 3.—Statement of properties leased to and by the Department of Public Works of Canada from April 1, 1912, to March 31, 1913—*Continued.*

| Date of Lease. | Lessors. | Lessees. | Description of Property. | For what purpose. | Duration of Lease. | Rental. |
|---|---|---|---|---|---|---|
| 1912. | | | | | | $ cts. |
| " 3 | R. C. Thomas | His Majesty | Lease of rooms Nos. 28, 29, 30 and 31, Calgary Alta | Government purposes | 3 yrs. For rooms 28 and 29) (For rooms 30 and 31) | $40 per month. $50 per month. |
| " 6 | Benjamin E. Rathwell | " | Lease of rooms at Swan River, Man. | Government purposes | 1 year | $15 per month. |
| " 7 | Board of Trade of St. John, N.B. | " | Lease of three (3) rooms, St. John, N.B. | Chief Engineer's Staff | 3 years and 7 mos. | $300 per annum. |
| " 10 | J. S. Bergeron and A. G. Verret | " | Lease of 2nd floor of building, St. John st., Quebec, Que. | Government purposes | 3 years | $450 per annum. |
| " 17 | Northern British Columbia Development Co. | " | Lease of seven (7) rooms, ground floor of Federal Block, Prince Rupert, B.C. | Government purposes | 1 year | $450 per month. |
| Oct. 9 | His Majesty | F. A. Sinclair | Permission to dredge sand and gravel along foreshore, in front of Indian Reserve No. 2, mouth of Seymour creek, Burrard inlet, B.C. | Private enterprise | 5 years | $0.05 per c. yd. |
| " 10 | P. Winram | His Majesty | Lease of ground floor of building between 16th and 17th Avenues, Vancouver, B.C. | Letter carriers depot | 2 years | $50 per month for 1st year, and $60 per month for 2nd year. |
| " 15 | Gabriel Emile Foret | " | Lease of ground floor of brick building, Railway st., Regina, Sask. | Warehouse accommodation | 3 years | $250 per month. |
| " 25 | J. B. Ryan *et al.* | " | Lease of lots Nos. 17 to 20, block 52, at Calgary, Alta. | For Public Works Dept. | 3 years | $8,750 per annum. |
| Nov. 1 | Grand Trunk Railway Co. | His Majesty | Lease of site at Windsor, Ont. | For Government Dock | 21 years (renewable) | $500 per annum. |
| " 5 | N. S. Fraser | " | Lease of two (2) rooms, 1st floor Imperial Bank Block, No. 15½, at Moosejaw, Sask. | For Inland Revenue | 2 years. | $50 per annum. |
| " 9 | L. Foster | " | Lease of room No. 4, lot 12, block 14, at Medicine Hat, Alta. | For Immigration | 1 year | $25 per month. |

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|---|---|---|---|---|---|---|
| " 11 | His Majesty | Lake Erie Fish Co. | Permission to erect a fish house at inner end of Kingsville harbour, Ont. | Private enterprise | During pleasure | $5 per annum. |
| " 11 | J. H. Cameron and A. M. Johnston | His Majesty | Lease of two (2) rooms, marked 'G' and 'H,' at Saskatoon, Sask | Government purposes | 1 year | $126 per month. |
| " 12 | Philomene Lemieux Moisan | " | Lease of 1st story of building, Main st., at St. George East, Que | For Post Office | 5 years | $200 by Public Works Dept. and $100 by Post Office Dept. |
| " 12 | J. Leonal Leduc | " | Lease of premises at Beauharnois, Que | For Post Office | 5 years | $150 by Public Works Dept. and $125 by Post Office Dept. |
| " 15 | James T. Emerson | " | Lease of room No. 9, Cumberland st., Port Arthur, Ont. | Government purposes | 1 year | $360 per annum. |
| " 20 | Geo. De La Salle | " | Lease of premises at Swift Current, Sask. | For Post Office | 3 years | $1,800 per annum. |
| " 20 | D. M. Finnie and W. D. Morris | " | Lease of Union Bank building, Ottawa, Ont. | Government purposes | 3 years (renewable) | $4,000 per annum. |
| " 22 | J. A. Johnston | " | Lease of 1st block, Beck building at Swift Current, Sask. | Dominion Lands Office | 3 years | $2,100 per annum. |
| " 26 | Ottawa Building Company, Ltd. | " | Lease of premises, south side of Wellington st., Ottawa, Ont. | Government purposes | 7 years | $2,500 per annum. |
| " 26 | Ottawa Buildlng Company, Ltd. | " | Lease of north e. corner of Metcalfe and Slater sts., Ottawa, Ont. | Government purposes | 7 yrs. | $4,000 per annum. |
| " 29 | H. Robinson | " | Lease of portion of Robinson's building, Ottawa, Ont. | Government purposes | 3 years | $14,000 per annum. |
| " 30 | R. P. Thomas | " | Lease of premises Nos. 28, 29, 30 and 31, Calgary, Alta. | Government purposes | 3 years | $40 per month for Nos. 28 and 29. $50 per month for Nos. 30 and 31. |
| Dec. 31 | John M. Garland Son & Co. | " | Lease of two (2) top floors in Imperial Building, Ottawa, Ont. | For Topographical Branch of Interior Department | Expiry 1st Oct., 1916 | $2,500 per annum. |
| " 31 | W. H. Martin & Company | " | Lease of basement of building on Wellington st., Ottawa, Ont. | Militia and Defence | 3 years | $900 per annum. |
| 1913 | | | | | | |
| Jan. 1 | J. L. Jakes | " | Lease of portion of Jakes' Block, Merrickville, Ont. | Post Office purposes | 1 year | $350 per annum. |

No. 3.—STATEMENT of properties leased to and by the Department of Public Works of Canada from April 1, 1912, to March 31, 1913—*Continued.*

| Date of Lease. | Lessors. | Lessees. | Description of Property. | For what Purpose. | Duration of Lease. | Rental. |
|---|---|---|---|---|---|---|
| 1913. | | | | | | $ cts. |
| Jan. 7 | His Majesty | Winnipeg Beach Club | Lease of portion of water lot 'A' near Government breakwater, at Winnipeg, Man. | For erection of boathouse. | 10 years | $1 per annum. |
| " 18 | F. Y. Newton | His Majesty | Lease of Office at Roblin, Man | Supervisor of Riding Forest Reserve | Monthly tenancy | $27.50 per month. |
| " 22 | Dme, Vve, Louis Jos. Preville | His Majesty | Lease of premises at Joliette, Que | Weights and Measures | 5 years | $264 per annum. |
| " 22 | Maxime Crepeau | " | Lease of premises at St. Felix de Valois, Que | Post Office purposes | 1 year | $100 per annum. |
| " 28 | Sutherland Realty Company | " | Lease of five (5) rooms in Bruner Block at Calgary, Alta | Post Office purposes | 3 years | $100 per month. |
| " 30 | Alexander H. Bilsky | " | Lease of building, Prospect ave., Cobalt, Ont. | Post Office purposes | 5 years | $2,000 per annum. |
| Feb. 5 | His Majesty | Emery A. Lambert | Permission to erect small freight shed on south side of approach to wharf at Lord's Cove, N.B | Private enterprise | During pleasure | $1 per annum. |
| " 6 | Jas. Hope & Son | His Majesty | Lease of third (3rd) floor of building, Elgin and Sparks sts., Ottawa, Ont. | Post Office Dept | 3 yrs. (renewable) | $2,500 per annum. |
| " 8 | Edw. Hedley Cuthbertson. | " | Lease of room No. 214 in Cuthbertson Block at Fort William, Ont. | Inland Revenue | 1 year | $204 per annum. |
| " 26 | McKenzie Mann & Co. Ltd. | " | Lease of premises at Gravelbourg, Alta. | Immigration Hall | 5 years | $1 per annum. |
| Mar. 4 | H. T. Hennessy | " | Lease of parcels of land, lots Nos. 16, 17 and 18, block 23, Entwistle, Alta. | Government purposes | 5 years | $3 per annum. |
| " 4 | Timothee E. Boudreau | " | Lease of room, 1st floor of building, at Edmundston, N.B. | Immigration purposes | 1 year | $10 per month. |
| " 6 | School Dist. of Virden, No. 144 | " | Lease of stone school building at Virden, Man. | " | 1 year | $250 per annum. |
| " 12 | The Board of Trade of Alsask | " | Lease of messuage and tenement on lot No. 10, block 4, Alsask, Sask. | " | 6 months | $90 per month. |
| " 14 | The Canadian Bank of Commerce | " | Lease of rooms Nos. 1, 4 and 5 on 2nd floor of Canadian Bank of Commerce building at Revelstoke, B.C. | Public Works Department | 1 year (renewable) | $75 per month. |

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|---|---|---|---|---|---|---|
| " 22 | Julie Gougeon | " | Lease of w. ½ of basement of property No. 19, Centre Ward, and room No. 2, 1st floor of said building, Montreal, Que | Carpenters' shop and storage | 26 months | $55 per per annum. |
| " 28 | P. Lyall & Sons Construction Co. Ltd | " | Lease of portion of ground at Notre Dame de Graces, Montreal, Que | For storing materials | Unlimited period. | $1. |
| " 28 | Charles Charters and John Liggett | " | Lease of offices Nos. 5, 6, 7, 8 and 9, rear part of 1st floor of building on University st., Montreal, Que | Post Office department | 26 months | $1,500 per annum. |

DEPARTMENT OF PUBLIC WORKS,

OTTAWA, August 1, 1913.

J. A. CHASSE,

*Law Clerk.*

# LIST

OF SOME OF THE

# ACTS OF PARLIAMENT

## PASSED AT THE SESSION OF 1912-1913

HAVING REFERENCE TO THE

## DEPARTMENT OF PUBLIC WORKS, OR WORKS UNDER ITS CHARGE.

List of some of the Public Acts of the Parliament of the Dominion of Canada, passed at the Second Session of the Twelfth Parliament, begun and holden at Ottawa, on the Twenty-first day of November, 1912, and closed by Prorogation on the Sixth day of June, 1913, and having reference to the Public Works Department or works under its charge—(3-4 George V.)—and Orders of the Governor General in Council, having force of law.

| Subject. | Full Title of the Statute. | Chapter. | Page in Statute Book. |
|---|---|---|---|
| Incorporation of the National Gallery of Canada. | An Act to incorporate the National Gallery of Canada. | 33 | 339 |
| Confirmation of agreement and payment of subsidy authorized. | An Act to authorize the payment of a subsidy to the Western Dry Dock and Shipbuilding Co., Ltd. | 57 | 449 |

N.B.—By Proclamation dated the 22nd of February, 1913, the tariff of tolls proposed to be levied by the Upper Ottawa Improvement Company, Limited, of Ottawa, for the use of their works during the season of 1913 was approved.

Vide *Canada Gazette*, vol. XLVI., page 3355.

By Proclamation dated the 22nd of February, 1913, the tariff of tolls proposed to be levied by the Rouge Boom Company for the use of their works during the season 1913 was approved.

Vide *Canada Gazette*, vol. XLVI., page 3155.

J. A. CHASSE,

*Law Clerk.*

Department of Public Works,
Ottawa, August 1, 1913.

# NATIONAL ART GALLERY

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## REPORT

## FOR THE FISCAL YEAR ENDED MARCH 31, 1913

National Gallery of Canada,
Office of the Director,
Ottawa, September 11, 1913.

The past year has been an important one in the history of the National Gallery of Canada, marking great progress in every department of its activities. It has witnessed the acquisition of many fine works of art, both Canadian and foreign. It has seen a greater public interest displayed in the National Gallery, evidenced by increased attendance, sales of catalogues, and a general awakening to the value of a National Gallery of Art as a national possession. It has demonstrated beyond doubt the immediate necessity of the consideration of plans for a permanent home for the National Gallery in Ottawa, which shall be an adequate storehouse for the national art treasures, and a fitting recognition of the native art of Canada which has already done so much for the refinement and true progress of this country.

The following are some of the most important events of the past year:—

The formal opening of the National Gallery in its present quarters in the Victoria Museum by H.R.H. the Governor General had most regrettably to be abandoned owing to the illness of H.R.H. the Duchess of Connaught. The idea of a formal opening has now been relinquished until the National Gallery opens the doors of its permanent home.

A competition was opened for a memorial to H. M. King Edward VII, to be placed at the northeast corner of the Parliament grounds overlooking Connaught Place. The competition was thrown open to the British Empire, and forty-five models were received at the National Gallery and judged by the Advisory Arts Council for the award. It was unanimously agreed that Mr. Walter Allward, A.R.C.A., of Toronto, be awarded the commission of the work and that Mr. S. Nicholson Babb, 17 St. Dunstan's Rd., Baron's Court, London, W., England, be awarded the second prize of one thousand dollars. Canada is to be greatly congratulated upon the possession of so eminent an artist as the winner of the award in such open competition. For the encouragement of this great branch of our national art, it is hoped that no far distant day will see erected, from the Atlantic to the Pacific, monuments and statues commemorating at the same time the life work of Canada's discoverers, founders and most distinguished citizens.

Sites within the Parliament grounds for the memorial statues to Hon. George Brown and D'Arcy McGee, the work of Mr. G. W. Hill, A.R.C.A., of Montreal, were chosen. The memorial to George Brown has been placed in position, while that of D'Arcy McGee is expected to be so placed shortly.

The passing of the National Gallery Bill, 'An Act to incorporate the National Gallery of Canada,' actually occurred in the current year, but was entirely prepared for during the year of which this takes notice. It is by far the most important event in the history of the National Gallery since its inception, greatly widening its sphere of usefulness in encouraging and co-operating with the art interests of the Dominion, and tending to more satisfactory work within. Briefly stated, the duties and powers of the existing Advisory Arts Council are enlarged and amplified and reinvested in them as the Board of Trustees of the National Gallery of Canada. They are made responsible for the expenditure of the annual appropriations for the National Gallery and for the encouragement of Canadian art generally, and are required to submit to the Department of Public Works an annual account of their stewardship.

A second edition of the National Gallery catalogue became necessary at the end of 1912, the first edition, owing to sales and presentations, being exhausted.

In July, 1912, the loan for one year was offered by the French Government of a picture entitled, 'Jacques Cartier discovering the River St. Lawrence,' by Jean Antoine Gudin. The loan was accepted and the picture hung in the National Gallery, and thanks were made to the French Government through the Hon. Mr. Phillippe Roy, Canadian Commissioner in Paris.

During the year, the basement beneath the National Gallery was fitted up as a work-shop in which all necessary work of the upkeep and maintenance of its possessions is being carried out.

Turnstiles were fitted to the entrances to the National Gallery in July, 1912, so that nine months' record of attendance is now available. During that time, twenty-three thousand two hundred and seventy-four people visited the galleries. These numbers indicate, better than any other proof that could be offered, the value of the National Gallery as an instructive and pleasure-giving exhibition. The galleries have also been opened on all public holidays and on Saturday afternoons. The attendance on these days has shown how greatly this innovation has been appreciated.

During the past nine months, statistics regarding sales of catalogues are also available. During this time, four hundred and fifteen were sold and five hundred and eighty presentation copies forwarded. These sales are very encouraging, and there is no reason to doubt their continued increase as the National Gallery possessions grow more varied and interesting.

It is intended to have on sale, in the galleries, reproductions of such important pictures as may be valuable for school instruction and interesting to visitors.

One of the most valuable and remarkable acquisitions of the year was the purchase of a collection of one hundred and two line engravings by Robert Nanteuil, 1623-1678. Robert Nanteuil was the foremost engraver of the great epoch of French line engraving, and his portraits depict almost every great man and some of the women of his day. These engravings are intensely interesting, both on account of their exquisite workmanship and the wonderful historical record they constitute. They should be doubly interesting to Canada because the period of their production is that of Louis XIV's great attempt at the colonization of Canada, and the portraits include many of those men who were responsible for the affairs of France during that period.

The following presentations were made to the National Gallery during the year:—

1. Mr. Stephan Bourgeois, of Paris and New York, presented an original signed drawing by J. F. Millet.
2. Mr. Walter Fearon, of Cottier & Co., New York, presented a mahogany stand of thirteen swinging cases in which to exhibit drawings.
3. Hon. Mr. Boyer, of Montreal, presented a book entitled 'Arabian Antiquities of Spain.'

The Advisory Arts Council met on six occasions, and the following pictures, etchings, drawings, casts and other objects of art were purchased:—

*Oil Paintings—*

| | |
|---|---|
| Bréard, Henri | Pictures. |
| Dougherty, Paul | The Light on the Sea. |
| Ellis, Edwin | Marine. |
| Gagen, Robert F. | Surf. |
| German School, XVII. Century | The Presentation in the Temple. |
| Hankey, W. Lee | Cécile. |
| | The Woodnymph. |
| Houthorst, Gerard | The Earl of Garrick and His Sister. |
| Knight, Laura | The Green Feather. |
| Livens, Horace Mann | Fowls in Woodyard. |

Morrice, J. W... .. .. .. .. .. .. The Circus, Montmartre.
Macdonald, J. E. H... .. .. .. .. In the Pine Shadows.
Simpson, Charles W... .. .. .. .. Winter Quarters.
Roman Period, 1st Century, A.D.. Portrait Head.

*Water Colours and Pastels—*

Chavignaud, George... .. .. .. .. The Windmill.
Goodman, Gwelo.. .. .. .. .. .. .. A By-Way, Venice.
Seymour, Munsey... .. .. .. .. .. Early Spring, near Magog.

*Drawings and Etchings—*

Barker, Anthony.. .. .. .. .. .. .. The Assassins Surprised.
The Hill into Montreuil.
Bauer, M. A. J... .. .. .. .. .. .. Twenty-six Etchings.
Brangwyn, Frank, A.R.A... .. .. .. Brentford Bridge.
Cliff Village
Cotton, J. J. W... .. .. .. .. .. .. The Tryst.
St. Ives Harbour.
Dawson, Edith B.... .. .. .. .. .. By the Sussex Downs.
De Zwart, W... .. .. .. .. .. .. .. Milking time.
Boats.
Cattle Market.
Gabain, Ethel... .. .. .. .. .. .. The Dancer.
The Printing Press.
Voices.
Giles, W... .. .. .. .. .. .. .. .. Our Lady's Birds.
Hankey, W. Lee.. .. .. .. .. .. .. The Cave Maiden.
The Outskirts of London.
Virgin and Child.
Hope, Edith A... .. .. .. .. .. .. Fauns Drinking.
Laing, Frank.. .. .. .. .. .. .. .. Duddingston.
Salisbury Crags, Edinburgh.
Lawrenson, Edward.. .. .. .. .. .. The Gorges of the Tarn.
Legros, Alphonse.. .. .. .. .. .. .. Old Man Resting.
Neilson, Ivan.. .. .. .. .. .. .. .. Schooners, Quebec Harbour.
Sous le Cap Street, Quebec.
Pennell, Joseph.. .. .. .. .. .. .. Cut at Paraiso.
Cut from Culebra.
Approach to Gatun Locks.
Cut Towards Culebra.
Robinson, W. Heath... .. .. .. .. 'She's Taking Tired People to the Island of the Blest.'
Shannon, Charles, A.R.A... .. .. .. The Bathers.
An Idyll.
Portrait of the Artist.
The Swimmer.
Sower and Reaper.
The Wayfarers.
Short, Sir Frank... .. .. .. .. .. A Yorkshire Dell.
Smyth, Olive C... .. .. .. .. .. .. Peer Gynt.
Spencer-Pryse, G... .. .. .. .. .. 'They that go up to Merciful Town.'
Stevens-Dorothy.. .. .. .. .. .. .. Breton Peasants.
Ponte Vecchio.
Storm van's Gravesande.. .. .. .. The Port of Hambourg.
Interior.

| | |
|---|---|
| Swan, J. M. | Leopard Drinking. |
| Witsen, W. | Oude Schans. |
| | Jodenhouttuinen. |
| | The Village Smith. |
| Zorn, Anders | Anna. |
| | Ida. |
| | Wet. |
| | Girl Sitting on Bed Reading. |
| | Circles in the Water. |

*Casts—*

Fragment of a coping, from the Church of St. Urbain, Troyes, France, XIV. Century.

Bas-relief, Allegory, from the Palace of Versailles, France, late XVII. Century.

Bas-relief, Allegory, from the Palace of Versailles, France, late XVII. Century.

Capital of a Column, from Narbonne Cathedral, France, XVI. Century.

Capital of a Column, Romanesque, from the Church of St. Laumer, Blois, France, XII. Century.

Four Details of Pilasters, from the Organ Gallery, Limoges Cathedral, France, XVI. Century.

Frieze from Choir Stalls, from Amiens Cathedral, France, Gothic, XV. Century.

Arm of Choir Stalls, from Amiens Cathedral, France, Gothic, XV. Century.

Details of Foliage, from Caen, France, Gothic.

A Crocket, from Laon Cathedral, France, late XIII. Century.

Leaf of a Door, from the Palace of Versailles, late XVII. Century.

Fragment of a Small Column, Romanesque, from Chartres Cathedral, France, XII. Century.

Overmantel, from the Palace of Versailles, late XVII. Century.

Details of Panel with Foliage, from Reims, France, XIV. Century.

Tomb of Francis II., Duc de Bretagne, et de Marguerite de Foix, from the Cathedral de Sainte Pierre de Nantes, France, completed in 1500.

Vase, adorned with Neptune, Tritons and Mermaids, from Versailles, XVII. Century.

Cavalry Helmet, specimen of a highly decorated Roman helmet.

Inscription of Second Legion, with Suove Taurilia, a slab which records the building of the Roman Wall from the Forth to Clyde by Emperor Pius in A.D. 142.

Statue of Mars, a Romano-British sculpture in the round.

Parade Mask, from Newstead, England, Romano-British.

Mithraic Tablet, an example of a Mithraic Altar-piece.

River-God, thought to be of Italian carving brought over to London in the Roman Period.

Tombstone of Centurion, specimen of a Roman military tombstone of the First Century A.D.

Tombstone of a man, a specimen of the 'Funeral banquet' type of Roman sepulchral monument.

Tombstone of a Horseman, work possibly of the First Century A.D.

Approved by the Advisory Arts Council.

ERIC BROWN,

*Director.*

# NAMES OF THE CHIEF OFFICERS

OF THE

# DEPARTMENT OF PUBLIC WORKS

WITH

DATES OF APPOINTMENT, ETC., FROM 1841 TO 1913.

The names and dates of the appointments, etc., of the principal Officials of the Department of Public Works, from 1841 to 1913.

| Names. | Capacity or Office. | Date of Appointment. Served. From | To |
|---|---|---|---|
| *Under Statute 4-5 Vic., Chap. 38.* | | | |
| CORPORATION BOARD OF WORKS. | | | |
| Killaly, Hon. H. H. | Chairman | | |
| Daly, Hon. D. | | | |
| Harrison, S. B. | Members | Dec. 29, 1841 | Oct. 3, 1844 |
| Sullivan, R. B. | | | |
| Davidson, J., Esq | | | |
| Begley, Thomas A. | Secretary | Aug. 17, 1841 | |
| Keefer, Samuel | Chief Engineer | Aug. 17, 1841 | |
| Rubidge, F. B. | Architect and Asst. Chief Engineer | Dec. 15, 1841 | |
| NEW BOARD OF WORKS. | | | |
| [illegible] H. H. | Chairman | | |
| Daly, Hon. D. | | | |
| Draper, Hon. W. H. | Members | Oct. 4, 1844 | June 8, 1846 |
| Morris, Hon. W. | | | |
| Papineau, Hon. D. B. | | | |
| *Under Statute 9th Vic., Cap. 37, &c.* | | | |
| Robinson, Hon. W. B. | Chief Commissioner | June 12, 1846 | Mar. 10, 1848 |
| Tache, Hon. E. P. | " " | Mar. 11, 1848 | Nov. 26, 1849 |
| Chabot, Hon. J. | " " | Dec. 13, 1849 | Mar. 31, 1850 |
| Merritt, Hon. W. H. | " " | April 8, 1850 | Feb. 11, 1851 |
| Bourret, Hon. J. | " " | Feb. 12, 1851 | Oct. 27, 1851 |
| Young, Hon. John | " " | Oct. 28, 1851 | Sept. 22, 1852 |
| Chabot, Hon. J. | " " | Sept. 23, 1852 | Jan. 26, 1855 |
| Lemieux, Hon. F. | " " | Jan. 27, 1855 | Nov. 25, 1857 |
| Alleyn, Hon. C. | " " | Nov. 26, 1857 | Aug. 1, 1858 |
| Holton, Hon. L. H. | " " | Aug. 6, 1858 | Aug. 6, 1858 |
| Sicotte, Hon. L. V. | " " | " 7, 1858 | Jan. 10, 1859 |
| Rose, Hon. John | " " | Jan. 11, 1859 | June 12, 1861 |
| Cauchon, Hon. Joseph | Commissioner | June 13, 1861 | May 23, 1862 |
| Tessier, Hon. U. J. | " | May 24, 1862 | May 27, 1863 |
| Drummond, Hon. L. T. | " | " 28, 1863 | July 23, 1863 |
| Laframboise, Hon. M. | " | July 24, 1863 | Mar. 29, 1864 |
| Chapais, J. C. | " | Mar. 30, 1864 | June 30, 1867 |
| Casgrain, Hon. Charles Eus. | Second Commissioner | July 9, 1846 | Feb. 29, 1848 |
| Cameron, Hon. M. | Assistant Commissioner | Mar. 11, 1848 | Feb. 1, 1850 |
| Wettenhall, James, Esq. | " " | Feb. 2, 1850 | April 16, 1850 |
| Bourret, Hon. Joseph | " " | April 17, 1850 | Feb. 11, 1851 |
| Killaly, Hon. H. H. | " " | Feb. 12, 1851 | May 6, 1859 |
| Keefer, Samuel | Deputy Commissioner | May 6, 1859 | Mar. 7, 1864 |
| Trudeau, Toussaint | " " | Mar. 8, 1864 | May 29, 1868 |
| Begley, Thomas A. | Secretary | Feb. 10, 1841 | Oct. 31, 1857 |
| Trudeau, Toussaint | " | Dec. 13, 1859 | Mar. 7, 1864 |
| Braun, Frederick | " | Mar. 8, 1864 | July 1, 1867 |
| Page, John | Chief Engineer | Oct. 31, 1873 | Oct. 1, 1879 |

The names and dates of the appointments, etc., of the principal Officials of the Department of Public Works, from 1841 to 1913—*Concluded.*

| Name. | Capacity or Office. | Date of Appointment. Served. From. | To. |
|---|---|---|---|
| *Under Statute* 31 *Vic., Cap.* 12. | | | |
| McDougall, Hon. Wm. | Minister | July 1, 1867 | Dec. 7, 1869 |
| Langevin, C.B., Hon. Hector L. | " | Dec. 8, 1869 | Nov. 6, 1873 |
| Mackenzie, Hon. Alexander | " | Nov. 7, 1873 | Oct. 16, 1878 |
| Tupper, C.B., K.C.M.G., Sir Charles | " | Oct. 17, 1878 | May 19, 1879 |
| Langevin, C.B., K.C.M.G., Sir Hector L. | " | May 20, 1879 | Aug. 11, 1891 |
| Smith, Hon. Frank | Acting Minister | Aug. 14, 1891 | Jan. 10, 1892 |
| Ouimet, Hon. Joseph Alderic | Minister | Jan. 11, 1892 | April 30, 1896 |
| Desjardins, Hon. Alphonse | " | May 1, 1896 | July 12, 1896 |
| Tarte, Hon. J. Israel | " | July 13, 1896 | Oct. 21, 1902 |
| Sutherland, Hon. James | " | Nov. 11, 1902 | May 3, 1905 |
| Hyman, Hon. Charles S. | " | May 22, 1905 | Aug. 29, 1907 |
| Pugsley, Hon. Wm. | " | Aug. 30, 1907 | Oct 12, 1911 |
| Monk, Hon. F. D. | " | Oct. 12, 1911 | Oct. 22, 1912 |
| Rogers, Hon. Robert | " | Oct. 29, 1912 | |
| Trudeau, Toussaint | Deputy Minister | May 29, 1868 | Oct. 1, 1879 |
| Baillarge, G. F. | " | Oct. 4, 1879 | Dec. 31, 1890 |
| Gobeil, A., I.S.O. | " | Jan. 1, 1891 | June 2, 1908 |
| Hunter, James B. | " | July 1, 1908 | |
| St. Laurent, Arthur | Assistant Deputy Minister | " 1 1908 | |
| Braun, Frederick | Secretary | " 1, 1867 | Sept. 30, 1879 |
| Chapleau, S. | " | Oct. 1, 1879 | Nov. 4 1880 |
| Ennis, F. H. | " | Nov. 5, 1880 | Jan. 13, 1885 |
| Gobeil, A. | " | Jan. 23, 1885 | Dec. 31, 1890 |
| Roy, E. F. E. | " | " 1, 1891 | " 31, 1900 |
| Gelinas, Fred. | " | June 8, 1901 | July 2, 1908 |
| Tessier, Napoleon | " | Aug. 11, 1908 | June 2, 1910 |
| Desrochers, Rodolphe Charles | " | July 1, 1910 | |
| McPherson, D. A. | Assistant Secretary | Jan. 18, 1891 | April 11, 1893 |
| Desrochers, Rodolphe Charles | " " | " 8, 1896 | June 30, 1910 |
| Dillon, R. W. | " " | Dec. 19, 1910 | March 23, 1911 |
| Colman, L. H. | " " | May 23, 1911 | |
| Page, John | Chief Engineer | July 1, 1868 | Oct. 1, 1879 |
| Perley, H. F. | " | Nov. 25, 1880 | July 10, 1891 |
| Coste, Louis | " | July 26, 1892 | Mar. 18, 1899 |
| Lafleur, E. D. | " | Jan. 7, 1905 | |
| Dufresne, A. R. | Assistant Chief Engineer | May 13, 1910 | |
| Scott, Thos. S. | Chief Architect | " 26 1871 | Oct. 30, 1881 |
| Fuller, Thomas | " | Oct. 31, 1881 | June 30, 1897 |
| Ewart, David, I.S.O. | " | Nov. 2, 1897 | |

# NAMES

OF THE

# Officials Employed on the Slides and Booms of Canada

ON MARCH 31, 1913

WITH

DATES OF APPOINTMENT, SALARIES, ETC.

# OFFICIALS EMPLOYED ON THE SLIDES AND BOOMS

STATEMENT showing the Names, Dates of Appointment, Salaries, &c., of persons employed on the various Slides and Booms on March 31, 1913.

| Name. | Date of Birth. | Position. | Where employed. | Date of Appointment. | Salary. | Remarks. |
|---|---|---|---|---|---|---|
| | | | | | $ cts | |
| *Collector of Public Works' Revenue.* | | | | | | |
| E. T. Smith. | Nov. 26, 1846 | Collector First Div. Subdivision 'A' | Ottawa. | July 1, 1889 | 2,900 00 a year. | Date of first appointment to Crown Timber Office, Ottawa, June, 23, 1864. Clerk in Dept. of Inland Revenue, July 1, 1870, to June 30, 1889. Transferred to civil list with rank of first class clerk, January 5, 1892, Chief clerk, July 1, 1906. Subdivision A of 1st Division, 1st April, 1912. |
| James Steen. | June 17, 1830 | Boatman. | " | July 12, 1889 | 60 00 a month | Date of first appointment, May 26, 1861. Timber counter, Ottawa, for Department of Inland Revenue, January 7, 1884, to June 30, 1889. |
| J. Brassard. | Jan. 9, 1859 | " | " | Mar. 1, 1901 | 70 00 " | |
| *Saguenay District.* | | | | | | |
| William Dallaire | Oct. 8, 1857 | Boom master. | Chicoutimi. | April 1, 1907 | 75 00 " | |
| Jean Boucher. | | Ass. boom master | " | " 1912 | 70 00 " | |
| Arm. Ouellet. | June 15, 1879 | Boom keeper | " | May 1, 1906 | 50 00 " | |
| Willie Dallaire | Dec. 23, 1882 | " | " | May 1, 1906 | 50 00 " | |
| N. Duchesne. | Jan. 6, 1880 | " | " | April 6, 1908 | 50 00 " | |
| *St. Maurice District.* | | | | | | |
| John Dick. | April 7, 1848 | Boom master | Mouth of St. Maurice. | May 21, 1898 | 75 00 " | |
| Jos. Brousseau | Jan. 3, 1869 | " | Mouth of St. Maurice. | Feb. 1, 1912 | 75 00 " | |
| Jos. Page. | July 7, 1845 | " | Cap aux Corneille | Dec. 10, 1879 | 75 00 " | |
| C. Lymburner. | July 21, 1843 | " | " | Feb. 26, 1912 | 75 00 " | |
| E. Brousseau | Sept. 12, 1865 | " | " | Feb. 28, 1912 | 75 00 " | |
| P. Gelinas | Jan. 6, 1862 | " | Les Cèdres | Mar. 28, 1912 | 75 00 " | |
| N. Lymburner | July 22, 1855 | Slide master | Shawinigan Falls | July 1, 1895 | 75 00 " | |
| S. Bisson. | Oct. 17, 1863 | Asst. master | " | Feb. 1, 1911 | 60 00 " | |
| J. Paquin. | Oct. 9, 1864 | Boom master | Grand Mere | Nov. 21, 1911 | 75 00 " | |
| E. C. Boucher | July 24, 1868 | Asst. master | " | July 1, 1912 | 60 00 " | |
| Alp. Doucet | Feb. 14, 1867 | Boom master | Grande Piles | Dec. 7, 1912 | 75 00 " | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| *Ottawa District.* | | | | | | | | | |
| G. P. Brophy | Feb. | 24, | 1846 | Superintendent‡ | Ottawa | July | 6, 1873 | 3,000 00 a year | *Ottawa River Works:* In addition to the above officers, &c., there are employed during the running season, one foreman on slide at $1.50, and one assistant foreman at $1.25 a day; also 25 to 30 labourers at $1 to $1.40 a working day. |
| J. Kent | Jan. | 28, | 1864 | Accountant* | " | Aug. | 1, 1886 | 1,800 00 " | |
| J. C. Scott | June | 27, | 1865 | Assist. engineer | " | April | 1, 1889 | 2,100 00 " | |
| S. E. Smith | May | 25, | 1869 | Clerk | " | Nov. | 7, 1904 | 1,200 00 " | |
| A. A. Nantel, Miss | May | 31, | 1887 | Typewriter | " | July | 2, 1908 | 700 00 " | |
| Wm. Cain | April | 22, | 1860 | Messenger | " | Jan. | 1, 1892 | 800 00 " | |
| Geo. P. Huguet | Mar. | 13, | 1883 | Draughtsman | " | July | 2, 1905 | 1,400 00 " | |
| G. R. Nash | Oct. | 16, | 1882 | " | " | Aug. | 26, 1904 | 1,600 00 " | |
| D. Noonan | June | 17, | 1840 | Boom master | Gatineau | Mar. | 21, 1878 | 750 00 " | |
| J. Nash | Jan. | 13, | 1857 | Deputy slide master | Chaudiere | Mar. | 25, 1913 | 3 00 a day | |
| L. Cousineau | Dec. | 30 | 1852 | " " | Hull | Oct. | 26, 1911 | 2 00 " | Employed about six months. |
| Jos. Gaudette | June | 24, | 1840 | " " | Arnprior | May | 17, 1912 | 2 50 " | Actively employed about seven months. |
| Joseph McCrea | Mar. | 26, | 1859 | Boom master | Springtown | May | 15, 1880 | 25 00 a month | Employed about three months during season of navigation. |
| Patrick Barry | Mar. | 27, | 1858 | Deputy slide master | High Falls | Mar. | 10, 1888 | 1 50 a day | Employed four months during season of navigation. Oversees repairs in winter. |
| Duncan McLaren | Jan. | 7, | 1860 | " " | Portage du Fort | Sept. | 7, 1881 | 456,25 a year | " " |
| N. Rochon | April | 2, | 1879 | " " | Black River | Mar. | 1, 1900 | 480 00 " | " " |
| H. B. Smith | June | 5, | 1856 | " " | Lower Petawawa | May | 13, 1912 | 2 00 a day | " " |
| J. R. Jennings | April | 28, | 1843 | " " | Upper Petawawa | June | 2, 1905 | 2 00 " | " " |
| Wm. Thomson | May | 3, | 1843 | " " | Mountain | Sept. | 2, 1879 | 1 25 " | " 6 months " |
| S. Moorhead | May | 3, | 1861 | " " | Calumet | Mar. | 1, 1901 | 1 25 " | " 6 to 7 months " |
| John Mullin | July | 27, | 1851 | " " | Coulonge | April | 10, 1899 | 2 00 " | " 4 months " |
| Thos. Tait | Nov. | 13, | 1877 | " " | Dumoine | April | 20, 1912 | 2 00 " | Employed three months during the season of nav. Will inspect works when required. |
| Jas. Carey | July | 6, | 1850 | In charge | Cedar Lake Dam | April | 1, 1901 | 2 00 " | |
| T. McAnulty | June | 5, | 1857 | Deputy slide master | Crooked Chute | May | 14, 1912 | 2 00 " | |
| A. H. Johnson | Nov. | 28, | 1839 | " " | Chenaux | — | — 1865 | 3 00 " | Paid during season of navigation, seven months. |
| *Newcastle District.* | | | | | | | | | |
| Thos. Austin | June | 5, | 1857 | Slide master | Fenelon Falls | Jan. | 1, 1912 | 100 00 a year | Receives $360 a year as lock master from Department of Railways and Canals. |
| J. C. Bates | | | | " | Burleigh | Feb. | 6, 1907 | 100 00 " | " " |
| *Richelieu District.* | | | | | | | | | |
| N. Menard | | | | Boom master | Beloeil Station | May | 21, 1908 | 100 00 " | |
| *Burlington Channel Swing Bridge.* | | | | | | | | | |
| Robert Lutz | Mar. | 23, | 1864 | Bridge attendant | Burlington | April | 1, 1912 | 65 00 a month | |
| N. Carey | April | 30, | 1875 | Bridge assistant | " | June | 1, 1912 | 2 00 a day | Employed nine months. |
| J. Davey | Aug. | 12, | 1865 | " | " | Mar. | 1, 1913 | 2 00 per day | " " " |
| J. J. Fulton | May | 3, | 1881 | " | " | Mar. | 1, 1913 | 2 00 " | " " " |

*Appointed Accountant and Paymaster, October 4, 1904.
‡ Died 4 April, 1913.

## LOCKS, ETC., EMPLOYEES.

STATEMENT showing the Names, Dates of Appointment, Salaries, &c.—*Concluded.*

| Name. | Date of Birth. | Position. | Where employed. | Date of Appointment. | Salary. | Remarks. |
|---|---|---|---|---|---|---|
| | | | | | $ cts. | |
| *Yamaska Lock.* | | | | | | |
| O. Mineau | July 4, 1844 | Lock keeper | Yamaska | Sept. 1, 1885 | 75 00 a month | Employed nine months. |
| H. Lambert | Aug. 20, 1844 | " | " | July 1, 1897 | 50 00 " | " " " |
| *Riviere du Lievre Lock.* | | | | | | |
| O. Laframboise | | Lock master | Riviere du Lievre | May 1, 1912 | 65 00 " | |
| Charles Brazeau | Dec. 23, 1862 | Labourer | " | Mar. 3, 1902 | 60 00 " | Employed eight months. |
| *Riviere Saint-Louis, Feeder.* | | | | | | |
| *St. Andrew's Rapids Lock and dam.* | | | | | | |
| John Hay | Sept. 4, 1870 | Superintendent | Red River, Man. | Nov. 27, 1911 | 1,800 00 | |
| H. B. Johnston | July 1871 | Asst. superintendent | " | April 1, 1910 | 1,200 00 | |
| N. Ross | July 4, 1882 | Electrician | " | Jan. 1, 1912 | 1,100 00 | |
| C. Johnston | July 6, 1882 | Machinist | " | June 23, 1913 | | |
| A. J. Sanders | Mar. 17, 1880 | Lockman | " | May 3, 1912 | 560 00 | |
| A. Tilder | Oct. 9, 1854 | " | " | May 3, 1912 | 560 00 | |
| John Sanders | Feb. 21, 1867 | " | " | Aug. 12, 1912 | 560 00 | |
| James Swain | Mar. 15, 1890 | " | " | June 23, 1913 | 560 00 | |

# NAMES

OF

# PERSONS EMPLOYED IN THE VARIOUS GRAVING DOCKS

## ON MARCH 31, 1913

WITH

## DATE OF APPOINTMENT, SALARIES, ETC.

## GRAVING DOCK EMPLOYEES.

STATEMENT showing the Names, Dates of Appointment, Salaries, etc., of persons employed on the various Graving Docks, March 31, 1913.

| Name. | Position. | Where employed. | Date of Appointment. | Salary. | Remarks. |
|---|---|---|---|---|---|
| *Esquimalt Graving Dock, British Columbia.* | | | | | |
| J. A. Gould | Dockmaster | Esquimalt | June 20, 1906 | 165 09 a month | |
| John Jeffcott | Engineer | " | Jan. 4, 1901 | 132 00 " | |
| F. N. Jones | Assistant engineer | " | Jan. 8, 1901 | 110 00 " | |
| A. D. Grieve | Carpenter | " | Dec. 1, 1878 | 126 50 " | |
| J. Young | Labourer | " | June 1, 1903 | 71 50 " | |
| J. Stock | " | " | July 1, 1894 | 71 50 " | |
| Chas. Jordan | Stoker | " | July 1, 1901 | 77 00 " | |
| Joseph Apleby | " | " | Jan. 1, 1909 | 77 00 " | |
| James Isbester | Watchman | " | July 24, 1909 | 71 50 " | |
| *Levis Graving Dock.* | | | | | |
| Alf. Samson | Dockmaster | Levis | Feb. 15, 1900 | 1,800 00 a year | |
| W. McDougall | Mechanical engineer | " | June 1, 1888 | 90 00 a month | |
| T. Depres | Asst. mechanical engineer | " | July 21, 1901 | 70 00 " | |
| Casimier Bourassa | Fireman | " | Feb. 15, 1907 | 50 00 " | |
| *Kingston Graving Dock.* | | | | | |
| Dock leased May 1, 1910, for a period of 21 years to the Kingston Dry Dock and Shipbuilding Company, Limited.—W. J. Fair, Secretary. | | | | | |

JOS. VINCENT.

# NAMES

OF

# ENGINEERS, ENGINEMEN, FIREMEN AND CARETAKERS

EMPLOYED AT THE

## PUBLIC BUILDINGS THROUGHOUT THE DOMINION ON MARCH 31, 1913

DATE OF APPOINTMENT, SALARIES, ETC.

# ENGINEERS AND CARETAKERS, PUBLIC BUILDINGS.

STATEMENT showing the names, etc., of the Engineers, Enginemen, Firemen, Caretakers, Hoist Attendants and Watchmen employed at Dominion Public Buildings on March 31, 1913.

| Place. | Building. | Name. | Date of Birth. | Position. | Date of Appointment. | Monthly Salary. | Time Employed each year. | Yearly Salary. |
|---|---|---|---|---|---|---|---|---|
| | | | | | | $ cts. | | $ cts. |
| Amherst.. N.S. | Public building | J. H. Chapman | Jan. 3, 1846 | Caretaker | Sept. 1, 1901 | 33 33 | 12 months | 400 00 |
| Annapolis " | " | John McKay.. | Oct. 26, 1847 | " | April 1, 1891 | 33 33 | 12 " | 400 00 |
| Antigonish. " | " | J. C. Fraser. | May 31, 1847 | " | Oct. 1, 1902 | 33 33 | 12 " | 400 00 |
| Arichat. " | " | Mrs. A. DeRooch. | June 30, 1868 | " | May 5, 1905 | 12 50 | 12 " | 150 00 |
| Baddeck " | " | D. Munro | May 4, 1845 | " | July 1, 1912 | 33 33 | 12 " | 400 00 |
| Bridgewater " | " | Thos. Cohoon | Jan. 9, 1853 | " | Jan. 19, 1909 | 33 33 | 12 " | 400 00 |
| Canso " | " | C. A. Pyche | June 17, 1865 | " | Dec. 8, 1911 | 33 33 | 12 " | 400 00 |
| Dartmouth " | " | J. C. Henley | Dec. 11, 1846 | " | May 22, 1894 | 37 50 | 12 " | 450 00 |
| Digby " | " | F. Denison | Nov. 8, 1841 | " | May 14, 1902 | 33 33 | 12 " | 400 00 |
| Glace Bay " | " | Mrs. J. A. Currie | June 29, 1865 | " | Dec. 20, 1909 | 50 00 | 12 " | 600 00 |
| Guysborough " | " | Mrs. L. Hadley | Dec. 27, 1860 | Actg. Caretaker | Mar. 31, 1911 | 10 00 | 12 " | 120 00 |
| Halifax " | Ex warehouse | Martin O'Neal | Dec. 30, 1850 | Caretaker | Oct. 1, 1897 | 54 16 | 12 " | 650 00 |
| " " | Dom. building | Richard Power | Aug. 15, 1834 | Engineer | Oct. 1, 1871 | 62 50 | 12 " | 750 00 |
| " " | " | J. DeYoung. | Dec. 8, 1860 | Fireman | Nov. 28, 1904 | 54 16 | 12 " | 650 00 |
| " " | " | J. Handley.. | Aug. 10, 1854 | Asst. fireman | Mar. 1, 1912 | 54 16 | 12 " | 650 00 |
| " " | " | L. W. Anderson. | Nov. 1850 | Elevatorman | Oct. 31, 1910 | 54 16 | 12 " | 650 00 |
| " " | " | L. Umlah.... | July 21, 1885 | " | Aug. 1, 1912 | 54 16 | 12 " | 650 00 |
| " " | " | J. Dee. | July 21, 1855 | Watchman. | Feb. 18, 1911 | 54 16 | 12 " | 650 00 |
| " " | Custom house | J. F. Sullivan | April 16, 1866 | Asst. caretaker. | July 1, 1872 | 41 66 | 12 " | 500 00 |
| " " | " | Geo. Crockford | June 19, 1855 | Cleaner. | July 7, 1910 | 50 00 | 12 " | 600 00 |
| " " | " | F. Warner.. | Oct. 8, 1850 | Fireman. | May 1, 1907 | 41 66 | 12 " | 500 00 |
| " " | " | J. Barnes | Dec. 3, 1857 | Engineer. | Jan. 28, 1907 | 64 16 | 12 " | 770 00 |
| " " | " | P. L. Nickerson. | Mar. 4, 1887 | Elevatorman.... | Feb. 6, 1911 | 54 16 | 12 " | 650 00 |
| " " | " | G. Selig | April 21, 1854 | Fireman. | April 26, 1907 | 54 16 | 12 " | 650 00 |
| " " | Img. building | John Oxley..... | April 17, 1856 | " | Feb. 2, 1897 | 64 16 | 12 " | 770 00 |
| " " | " | J. Brennan.. | Oct. 22, 1858 | Asst. caretaker | Feb. 1, 1913 | 54 16 | 12 " | 650 00 |
| Inverness " | Public building | J. A. McDonald..... | July 1, 1878 | Caretaker..... | Dec. 1, 1911 | 33 33 | 12 " | 400 00 |
| Kentville " | " | W. Hiltz... | April 10, 1864 | " | Nov. 14, 1900 | 33 33 | 12 " | 400 00 |
| Lunenburg. " | " | C. Dauphinee.... | Mar. 19, 1867 | " | July 1, 1912 | 33 33 | 12 " | 400 00 |
| Liverpool.. " | " | James Clements.... | June 5, 1835 | " | June 27, 1900 | 33 33 | 12 " | 400 00 |
| New Glasgow.. " | " | K. Forbes..... | June 11, 1851 | " | Dec. 1, 1910 | 37 50 | 12 " | 450 00 |
| North Sydney.. " | " | H. D. McMillan..... | Nov. 16, 1865 | " | Mar. 11, 1911 | 37 50 | 12 " | 450 00 |
| Pictou. " | " | M. Roach..... | Oct. 15, 1839 | " | Aug. 27, 1912 | 25 00 | 12 months | 300 00 |
| " " | Custom house | F. J. Cole..... | May 8, 1848 | " | Aug. 27, 1912 | 25 00 | 12 " | 300 00 |
| Shelburne.. " | Public building | H. Swensburg..... | July 7, 1844 | " | Feb. 17, 1911 | 33 33 | 12 " | 400 00 |

| | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Springhill | " | " | J. A. Watt | Sept. | 5, | 1849 | " | | Dec. | 1, | 1903 | 37 | 50 | 12 | " | | 450 | 00 |
| Sydney | " | " | Mrs. M. Keefe | Jan. | 4, | 1850 | " | | Jan. | 13 | 1904 | 38 | 33 | 12 | " | | 460 | 00 |
| Sidney Mines | " | " | Wm. Way | | | | " | | Nov. | 18, | 1912 | 37 | 50 | 12 | " | | 450 | 00 |
| Truro | " | Post Office | W. Roebuck | | | | " | | Aug. | 1, | 1912 | 33 | 33 | 12 | " | | 400 | 00 |
| Westville | " | Public building | M. Conners | Nov. | 5, | 1855 | " | | April | 1, | 1913 | 33 | 33 | 12 | " | | 400 | 00 |
| Windsor | " | Post Office | J. A. Mosher | Nov. | 16, | 1841 | " | | Feb. | 13, | 1899 | 41 | 66 | 12 | " | | 500 | 00 |
| Yarmouth | " | Public building | W. H. Whelan | Dec. | 23, | 1841 | " | | Mar. | 1, | 1900 | 33 | 33 | 12 | months | | 400 | 00 |
| Charlottetown | P.E.I | Old bank building | Ed. Flynn | Mar. | 16, | 1856 | Caretaker | | Oct. | 1, | 1911 | 41 | 66 | 12 | " | | 500 | 00 |
| " | " | Dom. building | Angus Mackenzie | May, | 12, | 1856 | " | | Nov. | 1, | 1896 | 58 | 33 | 12 | " | | 700 | 00 |
| " | " | " | E. Cameron | Nov. | 2, | 1853 | Messenger | | Nov. | 15, | 1906 | 41 | 66 | 12 | " | | 500 | 00 |
| " | " | " | J. Savidant | June | 19, | 1869 | Asst. Caretaker | | Dec. | 9, | 1912 | 50 | 00 | 12 | " | | 600 | 00 |
| " | " | " | M. A. Allan | Aug. | 1, | 1855 | " | | Jan. | 24, | 1898 | 50 | 00 | 12 | " | | 600 | 00 |
| Georgetown | " | Public building | A. D. McPhee, P.M. | Oct. | 29, | 1866 | Caretaker | | Mar. | 27, | 1907 | 10 | 00 | 12 | " | | 120 | 00 |
| Montague | " | " | H. L. Peardon | April | 13, | 1885 | " | | Aug. | 27, | 1906 | 13 | 33 | 12 | " | | 160 | 00 |
| Summerside | " | " | Angus McSween | Sept. | 25, | 1835 | " | | Sept. | 1, | 1897 | 33 | 33 | 12 | " | | 400 | 00 |
| Souris | " | " | R. F. St. John | June | 27, | 1875 | " | | June | 17, | 1912 | 33 | 33 | 12 | " | | 400 | 00 |
| Tignish | " | " | J. W. Chiasson | Feb. | 14, | 1861 | " | | Mar. | 29 | 1913 | 33 | 33 | 12 | " | | 400 | 00 |
| Bathurst | N.B. | " | J. H. Doucet | July | 16, | 1846 | " | | Mar. | 26, | 1906 | 33 | 33 | 12 | " | | 400 | 00 |
| Campbellton | " | " | C. Watson | July | 15, | 1855 | " | | Mar. | 1, | 1912 | 33 | 33 | 12 | " | | 400 | 00 |
| Carleton | " | " | Mrs. J. C. Leonard | April | 11, | 1859 | Acting caretaker | | Sept. | 15, | 1908 | 33 | 33 | 12 | " | | 400 | 00 |
| Chatham | " | " | Chas. Johnston | May | 18, | 1856 | Caretaker | | Mar. | 27, | 1895 | 25 | 00 | 12 | " | | 300 | 00 |
| Dalhousie | " | " | Wm. Gould | Jan. | 1, | 1853 | " | | Nov. | 26, | 1890 | 33 | 33 | 12 | " | | 400 | 00 |
| Fairville | " | " | Alex. Scott | April | 18, | 1872 | " | | Feb. | 3, | 1913 | 33 | 33 | 12 | " | | 400 | 00 |
| Fredericton | " | " | Ludlow Yerxa | Dec. | 18, | 1843 | " | | July | 1, | 1900 | 41 | 66 | 12 | " | | 500 | 00 |
| Grand Falls | " | " | J. R. Graham | Nov. | 18, | 1840 | " | | Aug. | 30, | 1912 | 33 | 33 | 12 | " | | 400 | 00 |
| Hartland | " | " | J. W. Adams | Feb. | 10, | 1847 | " | | June | 11, | 1912 | 41 | 66 | 12 | " | | 500 | 00 |
| Hillsborough | " | " | R. Slater | Mar. | 17, | 1849 | " | | Dec. | 2, | 1912 | 33 | 33 | 12 | " | | 400 | 00 |
| Marysville | " | " | Jas. Inch, P.M. | Sept. | 10, | 1850 | " | | May | 31, | 1912 | 12 | 50 | 12 | " | | 150 | 00 |
| Moncton | " | " | E. B. Hicks | Jan. | 11, | 1832 | " | | Jan. | 11, | 1886 | 37 | 50 | 12 | " | | 450 | 00 |
| Newcastle | " | " | Patrick Keating | Mar. | 13, | 1840 | " | | Oct. | 23, | 1886 | 33 | 33 | 12 | " | | 400 | 00 |
| Richibucto | " | " | G. Holleran | Sept. | 19, | 1863 | " | | April | 5, | 1912 | 33 | 33 | 12 | " | | 400 | 00 |
| Sussex | " | " | T. Gaggon | Mar. | 23, | 1857 | " | | April | 1, | 1913 | 33 | 33 | 12 | " | | 400 | 00 |
| St. John | " | Custom house | N. J. Morrison | July | 25, | 1858 | Engineer and caretaker | | May<br>April | 1,<br>27, | 1894<br>1874 | 70 | 00 | 12 | " | | 840 | 00 |
| " | " | " | Christopher White | Nov. | 20, | 1844 | Caretaker | | Nov. | 9, | 1885 | 55 | 00 | 12 | " | | 660 | 00 |
| " | " | " | J. T. Logan | Sept. | 1, | 1882 | Asst. Fireman | | Dec. | 23, | 1908 | 50 | 00 | 12 | " | | 600 | 00 |
| " | " | " | James A. Paul | Aug. | 1, | 1837 | Messenger | | Oct. | 13, | 1891 | 58 | 33 | 12 | " | | 700 | 00 |
| " | " | Post Office | Jas. Wolfe | Mar. | 10, | 1850 | Engineer | | Dec. | 1, | 1893 | 65 | 00 | 12 | " | | 780 | 00 |
| " | " | " | Edward Haney | Feb. | 22, | 1849 | Elev. man | | Nov. | 27, | 1882 | 60 | 00 | 12 | " | | 720 | 00 |
| " | " | " | Jas. Gray | | | 1856 | Fireman | | Dec. | 12, | 1908 | 50 | 00 | 12 | " | | 600 | 00 |
| " | " | " | John Killen | June | 9, | 1857 | Caretaker | | Mar. | 4, | 1912 | 50 | 00 | 12 | " | | 600 | 00 |
| " | " | " | H. R. Garity | Sept. | 6, | 1877 | Asst. caretaker | | April | 16, | 1910 | 40 | 00 | 12 | " | | 480 | 00 |
| " | " | Detention Building | H. Stackhouse | Oct. | 13, | 1851 | Watchman | | Nov. | 15, | 1911 | $1.50 | p. d. | 12 | " | | 558 | 00 |
| " | " | Img. building | Fred. Haslam | Dec. | 30, | 1876 | " | | Jan. | 29, | 1903 | 55 | 00 | 12 | " | | 660 | 00 |
| " | " | Img. building | Joseph Sleeth | Oct. | 3, | 1872 | " | | Sept. | | 1902 | 55 | 00 | 12 | " | | 660 | 00 |
| " | " | Quarantine station | Fred. Hargrave | April | 25, | 1871 | Caretaker | | Dec. | 29, | 1904 | 60 | 00 | 12 | " | | 720 | 00 |
| St. Stephen | " | " | W. Evans | Mar. | 10, | 1859 | " | | Jan. | 1, | 1913 | 45 | 83 | 12 | " | | 550 | 00 |
| Tracadie | " | Lazaretto | P. Arsenault | May | 19, | 1869 | Fireman | | Dec. | 24, | 1908 | 45 | 00 | 12 | " | | 540 | 00 |
| " | " | " | A. Arsenau | May | 3, | 1883 | " | | Oct. | 9, | 1912 | 35 | 00 | 12 | " | | 420 | 00 |
| Woodstock | " | Public building | W. Hay | Nov. | 15, | 1844 | Caretaker | | Feb. | 17, | 1911 | 37 | 50 | 12 | " | | 450 | 00 |

STATEMENT showing the names, etc., of the Engineers, Enginemen, Firemen, Caretakers, Hoist Attendants and Watchmen employed at Dominion Public Buildings on March 31, 1913—*Continued.*

| Place. | Building. | Name. | Date of Birth. | Position | Date of Appointment. | Monthly Salary. | Time Employed each year. | Yearly Salary. |
|---|---|---|---|---|---|---|---|---|
| | | | | | | $ cts. | | $ cts. |
| Arthabaska, P.Q. | Public building | De. E. O. Belleau | Sept. 1, 1856 | Caretaker | Nov. 22, 1911 | 33 33 | 12 months | 400 00 |
| Aylmer | " | L. Chartier | Aug. 23, 1860 | " | June 4, 1912 | 8 33 | 12 " | 100 00 |
| Acton Vale | " | F. X. Beauregard | April 9, 1847 | " | Nov. 1, 1911 | 41 66 | 12 " | 500 00 |
| Berthierville | " | J. A. Roeray | May 24, 1893 | " | May 7, 1912 | 6 25 | 12 " | 75 00 |
| Buckingham | " | T. F. Bisson, P.M. | May 23, 1848 | " | Feb. 3, 1903 | 10 00 | 12 " | 120 00 |
| Chicoutimi | " | G. A. Blais | Sept. 24, 1870 | " | Dec. 4, 1907 | 45 83 | 12 " | 550 00 |
| Coaticook | " | I. Baldwin | Nov. 16, 1839 | " | June 27, 1889 | 41 66 | 12 " | 500 00 |
| Cookshire | " | S. Wright | June 25, 1856 | " | Feb. 4, 1909 | 33 33 | 12 " | 400 00 |
| Drummondville | " | O. H. Bernard | Sept. 15, 1847 | " | July 25, 1912 | 33 33 | 12 " | 400 00 |
| Farnham, West | " | J. Belanger | Jan. 19, 1847 | " | Jan. 30, 1906 | 25 00 | 12 " | 300 00 |
| Fraserville | " | E. Dube | Nov. 11, 1847 | " | May 12, 1911 | 33 33 | 12 " | 400 00 |
| Granby | " | Wm. Bourgeois | Nov. 17, 1877 | " | Jan. 1, 1912 | 25 00 | 12 " | 300 00 |
| Hull | Post Office | T. J. Madore, P.M. | Dec. 1, 1843 | " | Mar. 8, 1900 | 12 50 | 12 " | 150 00 |
| Iberville | " | A. Courtois | Jan. 20, 1869 | " | May 7, 1907 | 40 00 | 12 " | 480 00 |
| Joliette | Public building | Adolphe Ratel | Dec. 29, 1845 | " | Sept. 1, 1897 | 41 66 | 12 " | 500 00 |
| Knowlton | " | L. H. Pibus, P.M. | April 22, 1877 | " | May 1, 1912 | 12 50 | 12 " | 150 00 |
| Lachine | " | O. P. Robert, P.M. | Sept. 7, 1846 | " | Jan. 26, 1899 | 8 33 | 12 " | 100 00 |
| Lachute | " | D. Joss | Oct. 10, 1857 | " | April 28, 1909 | 33 33 | 12 " | 400 00 |
| Laprairie | " | Jos. Brisson, P.M. | Nov. 11, 1869 | " | Nov. 22, 1904 | 12 50 | 12 " | 150 00 |
| Levis | " | C. Lamontagne | Dec. 28, 1850 | " | Mar. 17, 1908 | 35 41 | 12 " | 425 00 |
| Longueuil | " | E. H. Lamarre | April 28, 1849 | " | Jan. 1, 1912 | 25 00 | 12 " | 300 00 |
| L'Assomption | " | A. Martel | | " | Nov. 18, 1911 | 25 00 | 12 " | 300 00 |
| Magog | " | N. Lacasse | June 16, 1869 | " | July 1, 1909 | 33 33 | 12 " | 400 00 |
| Marieville | Public building | P. Prairie | Nov. 17, 1886 | " | Oct. 13, 1912 | 25 00 | 12 " | 300 00 |
| Megantic | " | S. Brousseau | Sept. 25, 1842 | " | Feb. 15, 1912 | 33 33 | 12 " | 400 00 |
| Montmagny | " | H. Courteau | Feb. 21, 1861 | " | July 1, 1912 | 33 33 | 12 " | 400 00 |
| Montreal | Custom house | C. Daudelin | June 19, 1843 | Caretaker | July 16, 1892 | 41 66 | 12 " | 500 00 |
| " | " | C. Girard | Aug. 11, 1844 | Cleaner | Oct. 28, 1910 | 55 00 | 12 " | 660 00 |
| " | " | F. X. Bernier | May 24, 1856 | " | Oct. 28, 1910 | 55 00 | 12 " | 660 00 |
| " | " | A. Clairmont | May 8, 1865 | " | Dec. 1, 1912 | 50 00 | 12 " | 600 00 |
| " | " | A. Cousineau | June 26, 1862 | " | April 15, 1912 | 50 00 | 12 " | 600 00 |
| " | " | B. Lajeunesse | Nov. 20, 1861 | Fireman | Nov. 23, 1896 | 65 00 | 12 " | 780 00 |
| " | " | J. McMahon | Oct. 15, 1865 | | Sept. 26, 1912 | 65 00 | 12 " | 780 00 |
| " | " | A. Tremblay | April 12, 1862 | Plumber | Oct. 25, 1907 | 60 00 | 12 " | 720 00 |
| " | Examining warehouse | M. Boyer | Feb. 18, 1818 | Engineer | Mar. 4, 1882 | 70 00 | 12 " | 840 00 |
| " | " | J. Forgues | May 15, 1874 | Fireman | Nov. 2, 1904 | 65 00 | 12 " | 780 00 |
| " | " | A. Tremblay | April 12, 1862 | Fireman, night | Oct. 25, 1907 | 60 00 | 12 " | 720 00 |

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STATEMENT showing the names, etc., of the Engineers, Enginemen, Firemen, Caretakers, Hoist Attendants and Watchmen employed at Dominion Public Buildings on March 31, 1913—*Continued.*

| Place. | Building | Name. | Date of Birth. | Position. | Date of Appointment. | Monthly Salary. | Time Employed each year. | Yearly Salary. |
|---|---|---|---|---|---|---|---|---|
| | | | | | | $ cts | | $ cts. |
| Montreal, P.Q. | Gen'l. P. Office | L. Prud'homme | June 27, 1883 | Cleaner | Feb. 14, 1912 | 50 00 | 12 months | 600 00 |
| " " | " | I. Jasmin | Sept. 25, 1844 | " | Jan. 9, 1912 | 50 00 | 12 " | 600 00 |
| " " | " | M. Lorange | June 27, 1864 | " | May 13, 1912 | 50 00 | 12 " | 600 00 |
| " " | " | D. Royer, Mrs. | July 30, 1843 | Charwoman | June 1, 1887 | 28 00 | 12 " | 336 00 |
| " " | " | A. Crochetire, Mrs. | Sept. 29, 1859 | " | Nov. 1, 1897 | 28 00 | 12 " | 336 00 |
| " " | " | V. Laverdure, Mrs. | June 16, 1859 | " | Nov. 12, 1912 | 28 00 | 12 " | 336 00 |
| " " | " | L. D. Thibault | Jan. 28, 1864 | Electrician | Dec. 15, 1905 | 70 00 | 12 " | 840 00 |
| " " | " | F. X. Lefebvre | Dec. 13, 1859 | " | June 28, 1905 | 70 00 | 12 " | 840 00 |
| " " | " | Osias Renaud | June 14, 1869 | " | Feb. 2, 1907 | 70 00 | 12 " | 840 00 |
| " " | " | G. Fauteux | Feb. 11, 1879 | " | Feb. 1, 1913 | 65 00 | 12 " | 780 00 |
| " " | " | G. Flanagan | May 23, 1862 | " | Sept. 13, 1906 | 65 00 | 12 " | 780 00 |
| " " | " | P. Lucey | Jan. 17, 1883 | " | Dec. 28, 1912 | 65 00 | 12 " | 780 00 |
| " " | " | J. Langevin | Mar. 10, 1850 | Fireman | Oct. 18, 1904 | 60 00 | 12 " | 720 00 |
| " " | " | F. Rochon | Mar. 5, 1869 | P. elev. attend. | June 14, 1912 | 60 00 | 12 " | 720 00 |
| " " | " | Oscar Renaud | Feb. 19, 1862 | " | Sept. 10, 1898 | 60 00 | 12 " | 720 00 |
| " " | " | S. Trudeau | Oct. 14, 1855 | " | Feb. 23, 1913 | 60 00 | 12 " | 720 00 |
| " " | " | O. Chaput | Aug. 18, 1854 | " | Nov. 1, 1909 | 60 00 | 12 " | 720 00 |
| " " | " | O. de Ladurantaye | June 29, 1852 | " | April 26, 1906 | 60 00 | 12 " | 720 00 |
| " " | " | J. Cantin | Feb. 23, 1855 | " | Feb. 23, 1913 | 60 00 | 12 " | 720 00 |
| " " | " | A. Archambault | July 6, 1869 | " | Nov. 29, 1912 | 50 00 | 12 " | 600 00 |
| " " | " | W. Filiatreault | May 22, 1873 | " | Jan. 23, 1913 | 60 00 | 12 " | 720 00 |
| " " | " | M. Wickham | Feb. —, 1877 | " | Feb. 14, 1912 | 60 00 | 12 " | 720 00 |
| " " | " | J. B. Richot | Jan. 14, 1869 | " | Feb. 25, 1913 | 60 00 | 12 " | 720 00 |
| " " | " | P. Prud'homme | Mar. 7, 1854 | Frt. elev. attend | Mar. 19, 1906 | 55 00 | 12 " | 660 00 |
| " " | " | A. Bourassa | June 1, 1857 | " | Aug. 4, 1893 | 60 00 | 12 " | 720 00 |
| " " | " | A. Trudeau | April 13, 1866 | " | Jan. 17, 1908 | 60 00 | 12 " | 720 00 |
| " " | " | Ls. Brault | Dec. 29, 1854 | " | Sept. 1, 1901 | 60 00 | 12 " | 720 00 |
| " " | " | C. Varin | May 13, 1883 | " | Jan. 1, 1911 | 55 00 | 12 " | 660 00 |
| " " | " | W. J. Tremblay | May 22, 1879 | " | Dec. 1, 1911 | 55 00 | 12 " | 660 00 |
| " " | " | J. C. Thibault | Oct. 10, 1852 | Mess. govt. rms. | Dec. 2, 1909 | 65 00 | 12 " | 780 00 |
| " " | " | J. McClanaghan | Mar. 14, 1860 | Asst. messenger. | July 2, 1902 | 65 00 | 12 " | 780 00 |
| " " | " | J. I. R. Barthe | July 12, 1863 | " | May 1, 1906 | 55 00 | 12 " | 660 00 |
| " " | " | G. Robert | Dec. 18, 1853 | Lobby kpr. day. | July 1, 1902 | 60 00 | 12 " | 720 00 |
| " " | " | E. Richer | April 17, 1871 | " | July 2, 1912 | 60 00 | 12 " | 720 00 |
| " " | " | J. Murphy | Dec. 18, 1852 | Lobby kpr. night | May 19, 1907 | 60 00 | 12 " | 720 00 |
| " " | " | C. Berthiaume | Nov. 8, 1870 | Watchman night | July 2, 1902 | 65 00 | 12 " | 780 00 |
| " " | " | T. Thompson | May 9, 1857 | " | Aug. 1, 1912 | 65 00 | 12 " | 780 00 |
| " " | " | L. Bedard | Aug. 18, 1854 | Carpenter | April 1, 1908 | 65 00 | 12 " | 780 00 |

| | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| " | " | " | J. Trudeau | July | 6, | 1848 | Carpenter | Nov. | 1, | 1912 | 65 | 00 | 12 | " | " | 780 | 00 |
| " | " | " | A. Vallee | Aug. | 4, | 1847 | " | Aug. | 4, | 1910 | 65 | 00 | 12 | " | " | 780 | 00 |
| " | " | " | J. W. Carbeil | Nov. | 8, | 1879 | " | Sept. | 15, | 1912 | 65 | 00 | 12 | " | " | 780 | 00 |
| " | " | " | J. Renaud | April | 3, | 1863 | Painter | April | 1, | 1910 | 80 | 00 | 12 | " | " | 960 | 00 |
| " | " | " | E. Hallee | Mar. | 14, | 1850 | " | Jan. | 29, | 1913 | 67 | 50 | 12 | " | " | 810 | 00 |
| " | " | " | F. Valin | Dec. | 8, | 1886 | Carpenter | June | 5, | 1912 | 65 | 00 | 12 | " | " | 780 | 00 |
| " | " | " | J. M. Labelle | | | | " | | | | 65 | 00 | 12 | " | " | 780 | 00 |
| " | " | Sta. "B" P.O. | T. Drolet | Mar. | 11, | 1852 | Caretaker | Oct. | 29, | 1908 | 54 | 17 | 12 | " | " | 650 | 00 |
| " | " | " | A. Cunningham | April | 15, | 1878 | Cleaner | Jan. | 2, | 1909 | 65 | 00 | 12 | " | " | 780 | 00 |
| " | " | Sta. "C" P.O. | N. Robillard | June | 28, | 1859 | " | Jan. | 1, | 1912 | 60 | 00 | 12 | " | " | 720 | 00 |
| " | " | Sta. "D" P.O. | J. H. Roy | Aug. | 10, | 1888 | Caretaker | July | 14, | 1907 | 60 | 00 | 12 | " | " | 720 | 00 |
| " | " | Sta. "E" P.O. | H. Paquette | Aug. | 7, | 1858 | " | April | 1, | 1912 | 60 | 00 | 12 | " | " | 720 | 00 |
| " | " | St. Henri P.O. | Mrs. G. Colborne | Jan. | 30, | 1883 | Charwoman | Jan. | 9, | 1912 | 28 | 00 | 12 | " | " | 336 | 00 |
| " | " | Hochelaga P.O. | J. H. Brown P.M. | Oct. | 7, | 1851 | Caretaker | Mar | 2, | 1902 | 16 | 66 | 12 | " | " | 200 | 00 |
| Nicolet | " | Public building | U. Papillion | Mar. | 16, | 1843 | " | Nov. | 8, | 1907 | 43 | 33 | 12 | " | " | 520 | 00 |
| Nominingue | " | Immigration building | V. Charbonneau | Aug. | 8, | 1878 | " | April | 1, | 1912 | 25 | 00 | 12 | " | " | 300 | 00 |
| Peribonca | " | " | Ernest Roy | Dec. | 14, | 1877 | " | Oct. | 1, | 1902 | 25 | 00 | 12 | " | " | 300 | 00 |
| Pierreville | " | Public building | Mrs. S. G. Boucher | May | 7, | 1853 | " | Dec. | 1, | 1909 | 12 | 50 | 12 | " | " | 150 | 00 |
| Plessisville | " | " | J. O. Vallee, P.M. | May | 22, | 1855 | " | Nov. | 1, | 1912 | 10 | 00 | 12 | " | " | 120 | 00 |
| Quebec | " | Ex-warehouse | D. P. Kennedy | Feb. | 9, | 1865 | Engineer | April | 1, | 1897 | 75 | 00 | 12 | " | " | 900 | 00 |
| " | " | " | J. G. McLaughlin | Nov. | 15, | 1880 | Fireman | July | 4, | 1906 | 60 | 00 | 12 | " | " | 720 | 00 |
| " | " | Culler's Office | Jas. O'Neil | Aug. | 15, | 1861 | " | Aug. | 1, | 1894 | 45 | 00 | 12 | " | " | 540 | 00 |
| " | " | Custom house | J. Mountain | Nov. | 1, | 1848 | " | Nov. | 10, | 1888 | 45 | 00 | 12 | " | " | 540 | 00 |
| " | " | " | A. Martin | May | 30, | 1875 | Elevatorman | April | 12, | 1912 | 50 | 00 | 12 | " | " | 600 | 00 |
| " | " | Post Office | Rod. Roy | Sept. | 23, | 1878 | Caretaker | Feb. | 16, | 1910 | 66 | 66 | 12 | " | " | 800 | 00 |
| " | " | " | S. Lortie | Aug. | 9, | 1849 | Watchman | Feb. | 15, | 1912 | 50 | 00 | 12 | " | " | 600 | 00 |
| " | " | " | A. Poulin | Jan. | 5, | 1856 | Elevatorman | Mar. | 1, | 1912 | 50 | 00 | 12 | " | " | 600 | 00 |
| " | " | " | G. Cloutier | | | | " | May | 7, | 1913 | 50 | 00 | 12 | " | " | 600 | 00 |
| " | " | " | J. D. Villeneuve | Oct. | 22, | 1875 | Messenger | April | 17, | 1907 | 50 | 00 | 12 | " | " | 600 | 00 |
| " | " | " | F. J. Cooper | July | 8, | 1858 | Fireman | June | 15, | 1895 | 75 | 00 | 12 | " | " | 900 | 00 |
| " | " | Gov. Gen. Quar. | M. Lewis | May | 6, | 1871 | Caretaker | Sept. | 1, | 1905 | $1 | 50 | p. d. | 12 | " | 547 | 50 |
| " | " | P.O. St. Sauveur | C. Turcotte | June | 14, | 1866 | " | Jan. | 8, | 1907 | 12 | 50 | 12 | " | " | 150 | 00 |
| " | " | P.O. St. Roch | J. P. Turcotte | Sept. | 22, | 1860 | " | May | 7, | 1910 | 41 | 66 | 12 | " | " | 500 | 00 |
| " | " | Public building | D. Lortie | Oct. | 16, | 1853 | Joiner | Feb. | 5, | 1910 | $3 | 00 | p. d. | 12 | " | 939 | 00 |
| " | " | " | A. Petitclerc | Oct. | 18, | 1865 | " | Feb. | 5, | 1910 | $3 | 00 | p. d. | 12 | " | 939 | 00 |
| " | " | " | A. Lacasse | Oct. | 19, | 1877 | Electrician | July | 7, | 1910 | 75 | 00 | 12 | " | " | 900 | 00 |
| Richmond | " | " | H. Desmarais | July | 14, | 1869 | " | May | 7, | 1898 | 33 | 33 | 12 | " | " | 400 | 00 |
| Rigaud | " | " | J. B. Charlebois | April | 29, | 1859 | " | Oct. | 23, | 1912 | 12 | 50 | 12 | " | " | 150 | 00 |
| " | " | " | G. Vallee | Mar. | 26, | 1856 | Asst. caretaker | Dec. | 5, | 1912 | 12 | 50 | 12 | " | " | 150 | 00 |
| Rimouski | " | Post Office | A. Lepage | Jan. | 24, | 1863 | Caretaker | May | 31, | 1907 | 25 | 00 | 12 | " | " | 300 | 00 |
| Roberval | " | Imm't. building | G. Audet | Nov. | 18, | 1849 | " | | | | 25 | 00 | 12 | " | " | 300 | 00 |
| St. Hyacinthe | " | Public building | F. X. Tetreault | Nov. | 8, | 1845 | " | Mar. | 1, | 1912 | 43 | 33 | 12 | " | " | 520 | 00 |
| " | " | Inland Revenue | E. Clapin | April | 9, | 1844 | " | July | 19, | 1904 | 33 | 33 | 12 | " | " | 400 | 00 |
| St. Johns | " | Custom house | Leon Forrant | Jan. | 21, | 1849 | " | April | 14, | 1897 | 29 | 16 | 12 | " | " | 350 | 00 |
| " | " | Post Office | W. Brousseau, P.M. | Aug. | 12, | 18.0 | " | Mar. | 25, | 1909 | 29 | 16 | 12 | " | " | 350 | 00 |
| St. Jerome | " | Public building | T. Grignon | Mar. | 21, | 1859 | " | Dec. | 1, | 1911 | 33 | 33 | 12 | " | " | 400 | 00 |
| Sherbrooke | " | " | O. Deseve | Aug. | 6, | 1848 | " | April | 2, | 1898 | 33 | 33 | 12 | " | " | 400 | 00 |
| Sorel | " | " | J. B. Cadoret | | | 1847 | " | June | 10, | 1912 | 40 | 00 | 12 | " | " | 480 | 00 |
| Terrebone | " | " | J. Briere | Feb. | 15, | 1861 | " | Nov. | 1, | 1911 | 25 | 00 | 12 | " | " | 300 | 00 |
| Thetford Mines | " | " | J. Rousseau, P.M. | Dec. | 22, | 1859 | " | July | 1, | 1905 | 12 | 50 | 12 | " | " | 150 | 00 |
| Three Rivers | " | " | T. Beaulieu | April | 7, | 1850 | " | April | 1, | 1913 | 50 | 00 | 12 | " | " | 600 | 00 |

STATEMENT showing the names, etc., of the Engineers, Enginemen, Firemen, Caretakers, Hoist Attendants and Watchmen employed at Dominion Public Buildings on March 31, 1913—*Continued.*

| Place. | Building. | Name. | Date of Birth. | Position. | Date of Appointment. | Monthly Salary. | Time Employed each year. | Yearly Salary. |
|---|---|---|---|---|---|---|---|---|
| | | | | | | $ cts. | | $ cts. |
| Three Rivers P.Q. | Public building | P. Gravelle | June 3, 1828 | Asst. caretaker. | Feb. 1, 1891 | 25 00 | 12 months | 300 00 |
| Valleyfield " | " | Nap. Picard | Mar. 8, 1847 | Caretaker | May 2, 1902 | 40 00 | 12 " | 480 00 |
| Victoriaville " | " | C. Thibault | June 1, 1861 | " | Aug. 22, 1912 | 25 00 | 12 " | 300 00 |
| Alexandria Ont. | " | D. K. McDonald | July 4, 1847 | " | Oct. 17, 1906 | 41 66 | 12 " | 500 00 |
| Alimonte " | " | P. Burns | Jan. 28, 1861 | " | Sept. 1, 1907 | 33 33 | 12 " | 400 00 |
| Amherstburg " | " | Mrs. Elliott | Dec. 28, 1854 | " | June 6, 1905 | 33 33 | 12 " | 400 00 |
| Arnprior " | " | R. Tait | Oct. 16, 1845 | " | Dec. 1, 1909 | 33 33 | 12 " | 400 00 |
| Barrie " | " | E. Sevigny | Mar. 19, 1847 | " | May 1, 1903 | 33 33 | 12 " | 400 00 |
| Berlin " | " | Jacob Clements | June 21, 1840 | " | May 15, 1900 | 33 33 | 12 " | 400 00 |
| Belleville " | " | S. Haight | Aug. 26, 1857 | " | Jan. 24, 1901 | 54 16 | 12 " | 650 00 |
| Bowmanville " | " | W. W. Allin | Jan. 13, 1850 | " | Feb. 10, 1905 | 37 50 | 12 " | 450 00 |
| Brampton " | " | Jos. Foster | Sept. 16, 1846 | " | Aug. 1, 1906 | 33 33 | 12 " | 400 00 |
| Brantford " | " | John Squire | April 24, 1842 | " | Oct. 27, 1880 | 50 00 | 12 " | 600 00 |
| Bridgeburg " | " | Wm. Hanna | Aug. 15, 1863 | " | Oct. 3, 1905 | 29 16 | 12 " | 350 00 |
| Brockville " | " | C. F. Gray | April 28, 1861 | " | April 2, 1908 | 45 83 | 12 " | 550 00 |
| Carleton Place " | " | J. F. Halpenny | April 17, 1858 | " | May 13, 1892 | 33 33 | 12 " | 400 00 |
| Cayuga " | " | G. A. Gibson, P. M. | Mar. 29, 1861 | " | Sept. 3, 1891 | 4 16 | 12 " | 50 00 |
| Chatham " | " | W. W. Mitchell | May 25, 1848 | " | Jan. 7, 1885 | 50 00 | 12 " | 600 00 |
| Chesley " | " | | | " | | | | |
| Clinton " | " | James Scott, P.M. | Jan. 21, 1856 | " | Feb. 9, 1904 | 16 66 | 12 months | 200 00 |
| Cobourg " | " | Wm. Russell | Sept. 5, 1859 | " | Feb. 1, 1911 | 37 50 | 12 " | 450 00 |
| Cornwall " | " | C. River | Nov. 3, 1856 | " | May 1, 1912 | 37 50 | 12 " | 450 00 |
| Deseronto " | " | M. Hart | Jan. 15, 1862 | " | July 1, 1903 | 41 66 | 12 " | 500 00 |
| Dresden " | " | | | " | | | | |
| Dundas " | " | Wm. Graham, P.M. | Dec. 5, 1853 | " | July 1, 1898 | 4 16 | 12 months | 50 00 |
| Elora " | " | Thos. Godfrey, P.M. | | " | April 19, 1912 | 8 33 | 12 " | 100 00 |
| Essex " | " | T. Trewin | June 27, 1840 | " | Jan. 14, 1913 | 33 33 | 12 " | 400 00 |
| Fort William " | " | John Skea | July 20, 1874 | " | Sept. 1, 1912 | 45 83 | 12 " | 550 00 |
| Fergus " | " | T. M. Broadfoot | June 14, 1843 | " | April 1, 1912 | 33 33 | 12 " | 400 00 |
| Galt " | " | Thos. Barrett | June 17, 1861 | " | Aug. 1, 1902 | 41 66 | 12 " | 500 00 |
| Glencoe " | " | E. Waterworth | Aug. 19, 1852 | " | Feb. 28, 1910 | 33 33 | 12 " | 400 00 |
| Goderich " | " | A. Christal | Feb. 26, 1849 | " | Aug. 22, 1912 | 37 50 | 12 " | 450 00 |
| Guelph " | " | N. McLean | Oct. 7, 1868 | " | Feb. 28, 1910 | 41 66 | 12 " | 500 00 |
| Hamilton " | Dominion building | Alfred Barnard | Dec. 27, 1847 | " | Dec. 10, 1894 | 58 33 | 12 " | 700 00 |
| " " | " | J. Wigglesworth | Aug. 7, 1863 | Fireman | Oct. 1, 1896 | 62 50 | 12 " | 750 00 |
| " " | " | B. Moriarity | Mar. 17, 1866 | " | Dec. 31, 1911 | 60 00 | 12 " | 720 00 |
| " " | " | F. Nicholson | Dec. 17, 1857 | Engineer | March 2, 1887 | 58 33 | 12 " | 700 00 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Hamilton | " | Dominion building | F. C. Butler | | | 1876 | Cleaner | | June | 10, | 1911 | 54 | 16 | 12 months | 650 00 |
| " | " | " | C. Partridge | April | 2, | 1869 | " | | April | 12, | 1909 | 54 | 16 | 12 " | 650 00 |
| " | " | " | Mrs. C. White | April | 16, | 1857 | " | | Mar. | 6, | 1907 | 1 | 25 | p. w. day | 141 00 |
| Harriston | " | Public building | J. Gresh | June | 19, | 1856 | " | | Nov. | 8, | 1912 | 35 | 00 | 12 months | 420 00 |
| Hawkesbury | " | " | A. Marleau | Sept. | 22, | 1857 | " | | Aug. | 7, | 1906 | 33 | 33 | 12 " | 400 00 |
| Ingersoll | " | " | John McDonald | June | 30, | 1841 | " | | Nov. | 20, | 1900 | 37 | 50 | 12 " | 450 00 |
| Kenora | " | " | Mrs. J. Link | May | 10, | 1850 | " | | Dec. | 7, | 1901 | 33 | 33 | 12 " | 400 00 |
| Kincardine | " | " | Geo. D. Morrison, P.M. | Nov. | 14, | 1860 | Caretaker | | May | 17, | 1910 | 20 | 83 | 12 " | 250 00 |
| Kingston | " | Post Office | Jos. Kehoe | June | 21, | 1873 | Caretaker | | May | 15, | 1905 | 52 | 50 | 12 " | 630 00 |
| " | " | Custom house | Mrs. J. Stansbury | June | 27, | 1868 | " | | April | 2, | 1909 | 16 | 66 | 12 " | 200 00 |
| " | " | Inland Revenue building | J. Lawless | | | 1833 | " | | Feb. | 8, | 1908 | 41 | 66 | 12 " | 500 00 |
| " | " | " | J. Loughera | | | 1852 | Stoker | | June | 1, | 1912 | 15 | 00 | 12 " | 180 00 |
| Leamington | " | Public building | J. W. Ross | Aug. | 8, | 1860 | " | | May | 8, | 1911 | 37 | 50 | 12 " | 450 00 |
| Lindsay | " | " | W. Healey | May | 29, | 1873 | " | | Nov. | 10, | 1908 | 37 | 50 | 12 " | 450 00 |
| Listowel | " | " | A. Bailey | Dec. | 18, | 1846 | Caretaker | | Nov. | 28, | 1912 | 33 | 33 | 12 " | 400 00 |
| London | " | Custom house | M. Mulkern | Sept. | 4, | 1837 | Engineer | | Sept. | 18, | 1888 | 50 | 00 | 12 " | 600 00 |
| " | " | " | W. Greer | Oct. | 12, | 1839 | Caretaker | | Mar. | 16, | 1884 | 33 | 33 | 12 " | 400 00 |
| " | " | Post Office | D. Regan | May | 9, | 1854 | Engineer, &c. | | June | 1, | 1912 | 50 | 00 | 12 " | 600 00 |
| " | " | " | J. Gilbank | Dec. | 4, | 1861 | Caretaker | | May | 31, | 1906 | 41 | 66 | 12 " | 500 00 |
| Markham | " | Public building | Charles Wales | April | 12, | 1864 | " | | Aug. | 9, | 1909 | 50 | 00 | 12 " | 600 00 |
| Mitchell | " | " | F. Elliot | Nov. | 14, | 1857 | " | | April | 18, | 1913 | 33 | 33 | 12 " | 400 00 |
| Mount Forest | " | " | W. L. Smith | Aug. | 12, | 1839 | " | | Nov. | 8, | 1912 | 30 | 00 | 12 " | 360 00 |
| Napanee | " | " | Mrs. C. E. Webster | July | 12, | 1846 | " | | Oct. | 4, | 1900 | 41 | 66 | 12 " | 500 00 |
| Niagara Falls | " | " | J. C. Brown | May | 1, | 1862 | " | | June | 1, | 1910 | 53 | 33 | 12 " | 640 00 |
| North Bay | " | " | L. A. Gauthier | May | 15, | 1857 | " | | June | 13, | 1908 | 55 | 00 | 12 " | 660 00 |
| Orangeville | " | " | D. McPherson | April | 30, | 1851 | " | | July | 15, | 1900 | 50 | 00 | 12 " | 600 00 |
| Orillia | " | " | John Frawley | Mar. | 14, | 1844 | " | | Nov. | 1, | 1898 | 33 | 33 | 12 " | 400 00 |
| Oshawa | " | " | A. W. Brodie | Sept. | 28, | 1850 | " | | Dec. | 11, | 1905 | 41 | 66 | 12 " | 500 00 |
| Ottawa | " | Observatory | A. Villeneuve | Mar. | 11, | 1857 | " | | Dec. | 14, | 1904 | 55 | 00 | 12 " | 660 00 |
| Owen Sound | " | Public building | H. Wright | Nov. | 24, | 1841 | " | | Mar. | 18, | 1908 | 33 | 33 | 12 " | 400 00 |
| Parkhill | " | " | W. H. Taylor, P.M. | Aug. | 4, | 1847 | " | | May | 12, | 1910 | 16 | 66 | 12 " | 200 00 |
| Paris | " | " | Sam Lee | Oct. | 24, | 1841 | " | | July | 7, | 1902 | 33 | 33 | 12 " | 400 00 |
| Pembroke | " | " | H. Church | Nov. | 15, | 1864 | " | | Jan. | 5, | 1910 | 33 | 33 | 12 " | 400 00 |
| Petrolea | " | " | James Shaw | June | 11, | 1842 | " | | Sept. | 12, | 1904 | 37 | 50 | 12 " | 450 00 |
| Peterborough | " | " | G. Stenton | Sept. | 17, | 1847 | " | | Dec. | 7, | 1908 | 45 | 83 | 12 " | 550 00 |
| " | " | Custom house | B. McGill | April | 4, | 1854 | " | | Jan. | 1, | 1912 | 33 | 33 | 12 " | 400 00 |
| Port Arthur | " | Public building | D. McKenzie | Sept. | 12, | 1843 | " | | May | 14, | 1906 | 45 | 83 | 12 " | 550 00 |
| Port Colborne | " | " | Wm. Armstrong | Sept. | 9, | 1846 | " | | June | 11, | 1888 | 33 | 33 | 12 " | 400 00 |
| Port Hope | " | " | John Elliott | Oct. | 27, | 1877 | " | | Feb. | 27, | 1913 | 37 | 50 | 12 " | 450 00 |
| Prescott | " | " | Richard Birks | April | 6, | 1822 | " | | May | 1, | 1899 | 37 | 50 | 12 " | 450 00 |
| Picton | " | " | R. Ringer | Oct. | 17, | 1831 | " | | Oct. | 1, | 1912 | 33 | 33 | 12 " | 400 00 |
| Renfrew | " | " | Robert Sim | Feb. | 10, | 1839 | " | | May | 11, | 1909 | 33 | 33 | 12 " | 400 00 |
| Sandwich | " | " | John McLeod | Sept. | 14, | 1883 | " | | July | 22, | 1907 | 29 | 16 | 12 " | 350 00 |
| Sault Ste. Marie | " | " | P. J. Racine | Sept. | 25, | 1865 | " | | Sept. | 25, | 1905 | 37 | 50 | 12 " | 450 00 |
| Sarnia | " | " | J. H. Dyble | Aug. | 25, | 1860 | " | | Nov. | 7, | 1903 | 45 | 83 | 12 " | 550 00 |
| Simcoe | " | " | N. Porter | June | 6, | 1861 | " | | Nov. | 21, | 1910 | 40 | 00 | 12 " | 480 00 |
| Smith's Falls | " | " | R. W. Lewis | Aug. | 19, | 1863 | " | | Jan. | 8, | 1896 | 33 | 33 | 12 " | 400 00 |
| St. Catharines | " | " | A. Clark | Sept. | 14, | 1860 | " | | Dec. | 12, | 1904 | 37 | 50 | 12 " | 450 00 |
| St. Mary's | " | " | W. Hoyt | May | 19, | 1856 | " | | Mar. | 16, | 1908 | 33 | 33 | 12 " | 400 00 |
| St. Thomas | " | " | G. Luton | May | 25, | 1857 | " | | April | 14, | 1903 | 37 | 50 | 12 " | 450 00 |
| Strathroy | " | " | N. Leitch | April | 12, | 1868 | " | | June | 29, | 1911 | 33 | 33 | 12 " | 400 00 |

STATEMENT showing the names, etc., of the Engineers, Enginemen, Firemen, Caretakers, Hoist Attendants and Watchmen employed at Dominion Public Buildings on March 31, 1913—*Continued.*

| Place. | Building. | Name. | Date of Birth. | Position. | Date of Appointment. | Monthly Salary. | Time Employed each year. | Yearly Salary. |
|---|---|---|---|---|---|---|---|---|
| | | | | | | $ cts. | | $ cts. |
| Stratford..... Ont. | Pub uilding..... | J. P. Murray.. .. .. | July 29, 1850 | Caretaker..... | July 26, 1900 | 50 00 | 12 months.. | 600 00 |
| Tilsonburg..... " | " ..... | Thos. Fero..... | Dec. 19, 1856 | " ..... | Mar. 9, 1912 | 33 33 | 12 " .. | 400 00 |
| Toronto..... " | Dominion buildings..... | H. E. Hamilton..... | April 14, 1838 | Superintendent. | April 10, 1902 | 100 00 | 12 " .. | 1,200 00 |
| " ..... " | " ..... | Wm. Corrigan..... | Oct. 9, 1864 | Asst. " ... | Oct. 17, 1912 | 100 00 | 12 " .. | 1,200 00 |
| " ..... " | " ..... | J. H. Rogers..... | Feb. 26, 1890 | Electrician..... | Sept. 16, 1912 | 75 00 | 12 " .. | 900 00 |
| " ..... " | " ..... | A. W. Charleton. | Mar. 19, 1870 | " ..... | Dec. 1, 1911 | 66 66 | 12 " .. | 800 00 |
| " ..... " | " ..... | Wm. Graham..... | Mar. 16, 1840 | Carpenter..... | Oct. 16, 1896 | 66 66 | 12 " .. | 800 00 |
| " ..... " | " ..... | Wm. Allison..... | Aug. 1, 1855 | Window cleaner | June 10, 1912 | 54 16 | 12 " .. | 650 00 |
| " ..... " | " ..... | Jno. Duckworth..... | Dec. 28, 1880 | " .. | July 17, 1910 | 54 16 | 12 " .. | 650 00 |
| " ..... " | General Post Office..... | Jno. Sommers..... | April 8, 1835 | Fireman..... | Oct. 9, 1897 | 62 50 | 12 " .. | 750 00 |
| " ..... " | " ..... | Rich. Eyre..... | Oct. 11, 1849 | " ..... | Mar. 15, 1895 | 62 50 | 12 " .. | 750 00 |
| " ..... " | " ..... | T. Letray..... | 1858 | " ..... | May 10, 1907 | 62 50 | 12 " .. | 750 00 |
| " ..... " | " ..... | Robt. Moore..... | May 24, 1862 | Elevatorman.... | Sept. 12, 1911 | 54 16 | 12 " .. | 650 00 |
| " ..... " | " ..... | T. J. Burns..... | May 6th 1864. | " ..... | Nov. 23, 1912 | 54 16 | 12 " .. | 650 00 |
| " ..... " | " ..... | Fred. Sturgeon..... | Mar. 4, 1883 | " ..... | Dec. 4, 1911 | 54 16 | 12 " .. | 650 00 |
| " ..... " | " ..... | Alex. Morrice..... | Jan. 27, 1862 | " ..... | Feb. 24, 1911 | 54 16 | 12 " .. | 650 00 |
| " ..... " | " ..... | H. McCullough..... | April 24, 1856 | " ..... | June 1, 1911 | 54 16 | 12 " .. | 650 00 |
| " ..... " | " ..... | Wm. Gribble..... | Mar. 7, 1860 | Cleaner..... | Feb. , 1905 | 58 33 | 12 " .. | 700 00 |
| " ..... " | " ..... | Chas. Gregory.... | July 27, 1857 | " ..... | Feb. , 1904 | 54 16 | 12 " .. | 650 00 |
| " ..... " | " ..... | Jno. Cotton..... | July 31, 1864 | " ..... | Feb. 17, 1908 | 54 16 | 12 " .. | 650 00 |
| " ..... " | " ..... | J. P. Motta..... | Feb. 19, 1856 | " ..... | Dec. 9, 1912 | 54 16 | 12 " .. | 650 00 |
| " ..... " | " ..... | Sam. Walker..... | Dec. 14, 1880 | " ..... | Dec. 9, 1912 | 54 16 | 12 " .. | 650 00 |
| " ..... " | " ..... | Geo. McCallum..... | July 8, 1868 | " ..... | Feb. 17, 1909 | 54 16 | 12 " .. | 650 00 |
| " ..... " | " &c..... | Jno. Hages..... | Oct. 9, 1857 | " ..... | Aug. 15, 1910 | 54 16 | 12 " .. | 650 00 |
| " ..... " | " &c..... | I. S. Dess..... | Jan. 15, 1854 | " ..... | July , 1907 | 54 16 | 12 " .. | 650 00 |
| " ..... " | " &c..... | Amb. McCabe..... | Sept. 6, 1875 | " ..... | June 20, 1911 | 54 16 | 12 " .. | 650 00 |
| " ..... " | " &c..... | Jno. McCasson..... | July 21, 1871 | " ..... | Jan. 21, 1911 | 54 16 | 12 " .. | 650 00 |
| " ..... " | " &c..... | Fred. Edwards..... | May 20, 1872 | " ..... | July 18, 1904 | 54 16 | 12 " .. | 650 00 |
| " ..... " | " ..... | Thos. Russell..... | April 21, 1876 | " ..... | Oct. 20, 1909 | 54 16 | 12 " .. | 650 00 |
| " ..... " | Garage, &c..... | Hy. Gray..... | Dec. 10, 1872 | " ..... | Nov. 19, 1912 | 54 16 | 12 " .. | 650 00 |
| " ..... " | " ..... | Bruno Marando..... | Sept. 25, 1875 | Fireman..... | Nov. 25, 1912 | 62 50 | 12 " .. | 650 00 |
| " ..... " | Ex.-warehouse..... | Jas. Cosgrove..... | Feb. 10, 1844 | Engineer..... | Oct. 28, 1874 | 79 16 | 12 " .. | 950 00 |
| " ..... " | " ..... | Ed. Appleton..... | Sept. 26, 1864 | Asst. engineer.. | Sept. 28, 1886 | 70 83 | 12 " .. | 850 00 |
| " ..... " | " ..... | J. G. Matheson..... | Oct. 15, 1865 | " .. | Mar. 14, 1912 | 66 66 | 12 " .. | 800 00 |
| " ..... " | " ..... | Pat Cussack..... | Mar. 26, 1875 | Elevatorman.... | Sept. 20, 1907 | 58 33 | 12 " .. | 700 00 |
| " ..... " | " ..... | Jas. Cashen..... | June 28, 1866 | " .... | July 25, 1906 | 58 33 | 12 " .. | 700 00 |
| " ..... " | " ..... | P. W. Colbey..... | Feb. 24, 1876 | " .... | June 4, 1912 | 58 33 | 12 " .. | 700 00 |

| | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| " | " | " | Thos. Collis | Nov. | 5, | 1872 | " | July | 15, | 1912 | 54 | 16 | 12 | " | " | 650 | 00 |
| " | " | Ex.-warehouse, &c. | Wm. Stringer | Jan. | 22, | 1881 | Cleaner | Oct. | , | 1905 | 54 | 16 | 12 | " | " | 650 | 00 |
| " | " | " | A. E. Hules | July | 8, | 1881 | " | May | 1, | 1906 | 54 | 16 | 12 | " | " | 650 | 00 |
| " | " | " | Ed. Major | Sept. | 9, | 1864 | " | Dec. | 10, | 1912 | 54 | 16 | 12 | " | " | 650 | 00 |
| " | " | " &c. | W. H. Pearce | April | 29, | 1862 | Fireman | Nov. | 20, | 1912 | 62 | 50 | 12 | " | " | 750 | 00 |
| " | " | " &c. | Thos. Jones | Nov. | 10, | 1853 | Watchman | April | 4, | 1912 | 58 | 33 | 12 | " | " | 700 | 00 |
| " | " | Custom house | T. J. Enright | | | 1862 | Caretaker | Dec. | 18, | 1906 | 54 | 16 | 12 | " | " | 650 | 00 |
| " | " | " | Pat. Cassidy | May | 2, | 1862 | Fireman | May | 8, | 1906 | 62 | 50 | 12 | " | " | 750 | 00 |
| " | " | " | F. Simpson | Jan. | 8, | 1859 | Watchman | Sept. | 1, | 1903 | 58 | 33 | 12 | " | " | 700 | 00 |
| " | " | " | Wm. Scott | | | 1838 | " | June | 1, | 1905 | $2 | 00 p. d. | 12 | " | " | 730 | 00 |
| " | " | " | Thos. Davidson | June | 20, | 1861 | Elevatorman | April | 22, | 1911 | 54 | 16 | 12 | " | " | 650 | 00 |
| " | " | " | Wm. Murphy | Sept. | 16, | 1868 | Cleaner | Sept. | 28, | 1905 | 54 | 16 | 12 | " | " | 650 | 00 |
| " | " | " | Hy. Somers | Mar. | , | 1851 | " | Mar. | 3, | 1907 | 54 | 16 | 12 | " | " | 650 | 00 |
| " | " | " | Oliver Hamlett | Mar. | 18, | 1860 | " | Dec. | 16, | 1912 | 54 | 16 | 12 | " | " | 650 | 00 |
| " | " | Inland Revenue | Chas. Baillie | Sept. | 22, | 1852 | Fireman | Jan. | 13, | 1891 | 54 | 16 | 12 | " | " | 650 | 00 |
| " | " | P. O. Sta. "A" | Jno. Gormaly | Nov. | 26, | 1872 | Elevatorman | Oct. | 31, | 1901 | 58 | 33 | 12 | " | " | 700 | 00 |
| " | " | " | E. F. Tooze | Dec. | 8, | 1865 | " | Dec. | 15, | 1909 | 58 | 33 | 12 | " | " | 700 | 00 |
| " | " | " | O. Johnston | July | 18, | 1874 | " | Feb. | 14, | 1910 | 58 | 33 | 12 | " | " | 700 | 00 |
| " | " | P. O. Sta. "C" | James Rae | Feb. | 17, | 1864 | Caretaker | Jan. | 12, | 1884 | 50 | 00 | 12 | " | " | 600 | 00 |
| " | " | P.O. Sta "D" | James Devine | Feb. | 18, | 1847 | " | Feb. | 3, | 1905 | 50 | 00 | 12 | " | " | 600 | 00 |
| " | " | P.O. Sta. "F" | J. W. Thornton | April | 11, | 1867 | " | April | 7, | 1907 | 62 | 50 | 12 | " | " | 750 | 00 |
| " | " | " | Thos. Bridges | Sept. | 22, | 1880 | Cleaner | Aug. | 11, | 1911 | 54 | 16 | 12 | " | " | 650 | 00 |
| " | " | P.O. Sta. "K" | Jas. Kirkwood | Dec. | 9, | 1850 | Caretaker | Dec. | 9, | 1912 | 41 | 66 | 12 | " | " | 500 | 00 |
| Trenton | " | Public building | John Potter | June | 20, | 1840 | Caretaker | April | 1, | 1912 | 37 | 50 | 12 | " | " | 450 | 00 |
| Walkerton | " | " | Mrs. Thos. Gibson | Jan. | 21, | 1861 | Cleaner | May | 12, | 1905 | 33 | 33 | 12 | " | " | 400 | 00 |
| Welland | " | " | D. McIlvride | May | 16, | 1876 | Caretaker | June | 9, | 1910 | 41 | 66 | 12 | " | " | 500 | 00 |
| Whitby | " | " | Alex. Whitelaw | April | 30, | 1840 | " | Sept. | 1, | 1910 | 37 | 50 | 12 | " | " | 450 | 00 |
| Windsor | " | " | Wm. Curtis | Mar. | 6, | 1844 | " | Nov. | 9, | 1880 | 37 | 50 | 12 | " | " | 450 | 00 |
| " | " | " | Israel Belleperche | Oct. | 26, | 1848 | Engineer | Dec. | 24, | 1897 | 54 | 16 | 12 | " | " | 650 | 00 |
| Wingham | " | " | P. Fisher, P.M. | Dec. | 12, | 1832 | Caretaker | Nov. | 19, | 1906 | 16 | 66 | 12 | " | " | 200 | 00 |
| Woodstock | " | " | Robert Kerr | June | 6, | 1864 | " | Dec. | 11, | 1901 | 41 | 66 | 12 | " | " | 500 | 00 |
| Brandon | Man. | Public building | Jos. Quackenbush | June | 14, | 1857 | " | Dec. | 1, | 1912 | 65 | 00 | 12 | " | " | 780 | 00 |
| Dauphin | " | " | G. Broadfoot | Jan. | 1, | 1853 | " | Jan. | 1, | 1911 | 45 | 00 | 12 | " | " | 540 | 00 |
| Emerson | " | " | H. Pennock | Sept. | 12, | 1871 | " | July | 1, | 1912 | 41 | 66 | 12 | " | " | 500 | 00 |
| Neepawa | " | " | John Stevens | Jan. | 10, | 1863 | " | Nov. | 1, | 1909 | 65 | 00 | 12 | " | " | 780 | 00 |
| Portage la Prairie | " | " | Hy. Johns | July | 25, | 1840 | " | Aug. | 1, | 1912 | 45 | 00 | 12 | " | " | 540 | 00 |
| " | " | New " | W. Neale | | | | " | Mar. | 9, | 1912 | 33 | 33 | 12 | " | " | 400 | 00 |
| Selkirk | " | " | Wm. Kidd | May | 11, | 1879 | " | Mar. | 1, | 1909 | 55 | 00 | 12 | " | " | 660 | 00 |
| Souris | " | " | T. Summerfield | Mar. | 12, | 1858 | " | Jan. | 29, | 1912 | 37 | 50 | 12 | " | " | 450 | 00 |
| St. Boniface | " | " | J. A. S. Chaussé | Aug. | 20, | 1867 | " | Oct. | 1, | 1908 | 55 | 00 | 12 | " | " | 660 | 00 |
| Winnipeg | " | Old post office | M. McIvor | Nov. | 12, | 1867 | Engineer | Oct. | 15, | 1909 | 75 | 00 | 12 | " | " | 900 | 00 |
| " | " | " | Jos. Coutu | May | 10, | 1843 | Elevatorman | Mar. | 16, | 1887 | 65 | 00 | 12 | " | " | 780 | 00 |
| " | " | " | A. Boiteau | Sept. | 23, | 1860 | Ngt.Watchman | April | 4, | 1905 | 60 | 00 | 12 | " | " | 720 | 00 |
| " | " | " | B. Wasserman | | | 1866 | Cleaner | Feb. | 23, | 1912 | 65 | 00 | 12 | " | " | 780 | 00 |
| " | " | Custom house | Wm. Harrington | Sept. | 18, | 1871 | " | Sept. | 29, | 1908 | 60 | 00 | 12 | " | " | 720 | 00 |
| " | " | " | J. E. Webster | June | 24, | 1877 | Fireman | Sept. | 25, | 1911 | 60 | 00 | 12 | " | " | 720 | 00 |
| " | " | New post office | W. J. Smith | Mar. | 27, | 1863 | Caretaker | Mar. | 31, | 1910 | 65 | 00 | 12 | " | " | 780 | 00 |
| " | " | " | Jos. Hay | May | 4, | 1853 | Engineer | July | 20, | 1905 | 90 | 00 | 12 | " | " | 1,080 | 00 |
| " | " | " | G. Buchanan | April | 6, | 1862 | Fireman | Nov. | 20, | 1911 | 70 | 00 | 12 | " | " | 840 | 00 |
| " | " | " | A. Forbes | | | 1835 | " | Oct. | 1, | 1912 | 70 | 00 | 12 | " | " | 840 | 00 |

STATEMENT showing the names, etc., of the Engineers, Enginemen, Firemen, Caretakers, Hoist Attendants and Watchmen employed at Dominion Public Buildings on March 31, 1913—*Continued.*

| Place. | Building | Name. | Date of Birth. | Position. | Date of Appointment. | Monthly Salary. | Time Employed each year. | Yearly Salary. |
|---|---|---|---|---|---|---|---|---|
| | | | | | | $ cts | | $ cts. |
| Winnipeg, Man. | New post office | J. Watterson | April 1, 1882 | Fireman | Jan. 31, 1912 | 70 00 | 12 months | 840 00 |
| " " | " | Wm. Thorarinson | Feb. 10 1874 | Elevatorman | July 10, 1908 | 65 00 | 12 " | 780 00 |
| " " | " | A. R. Brush | Mar. 8, 1872 | " | July 15, 1909 | 65 00 | 12 " | 780 00 |
| " " | " | F. Jenkins | Feb. 21, 1874 | " | July 10, 1908 | 65 00 | 12 " | 780 00 |
| " " | " | P. Handel | 1860 | " | April 1, 1913 | 65 00 | 12 " | 780 00 |
| " " | " | T. McMaighan | Oct. 10, 1879 | " | Nov. 23, 1908 | 65 00 | 12 " | 780 00 |
| " " | " | W. Shields | Sept. 3, 1852 | Patrolman | Mar. 20, 1913 | 100 00 | 12 " | 1,200 00 |
| " " | " | Mrs. M. Pugsley | Oct. 13, 1857 | Cleaner | Sept. 19, 1912 | 95 00 | 12 " | 1,140 00 |
| " " | " | Mrs. E. Fentrell | July 5, 1860 | " | April 17, 1910 | 74 00 | 12 " | 888 00 |
| " " | " | Mrs. E. J. Buck | Dec. 24, 1861 | " | Sept. 1, 1909 | 24 00 | 12 " | 288 00 |
| " " | " | Expert Oriental Window Cleaning Co. | | " | | 12 50 | 12 " | 150 00 |
| " " | New Ex. warehouse | Wm. Clark | Oct. 8, 1868 | Engineer | July 1, 1908 | 85 00 | 12 " | 1,020 00 |
| " " | " | J. Saunders | Oct. 25, 1848 | Fireman | Nov. 23, 1908 | 70 00 | 12 " | 840 00 |
| " " | " | John Kennedy | April 1, 1867 | " | Oct. 6, 1910 | 65 00 | 12 " | 780 00 |
| " " | " | John Rohan | April 16, 1879 | " | Oct. 6, 1910 | 65 00 | 12 " | 780 00 |
| " " | " | J. Fontaine | April 26, 1866 | Elevatorman | May 19, 1908 | 65 00 | 12 " | 780 00 |
| " " | " | A. H. Smith | 1843 | " | May 8, 1912 | 65 00 | 12 " | 780 00 |
| " " | " | Jos. Knott | Jan. 21, 1864 | " | Oct. 6, 1910 | 65 00 | 12 " | 780 00 |
| " " | " | S. B. Jeffery | April 9, 1878 | Caretaker | Oct. 6, 1910 | 80 00 | 12 " | 960 00 |
| " " | " | F. Burns | 1870 | Fireman | Oct. 25, 1912 | 65 00 | 12 " | 780 00 |
| " " | P. O. Station B | John Lamb | Nov. 6, 1849 | Caretaker | May 16, 1908 | 60 00 | 12 " | 720 00 |
| " " | Public building | O. Rudford | Nov. 20, 1878 | Electrician | June 14, 1912 | 100 00 | 12 " | 1,200 00 |
| " " | " | Jas. Newton | Mar. 14, 1863 | " | Oct. 7, 1912 | 85 00 | 12 " | 1,020 00 |
| " " | " | Wm. Johnston | June 14, 1867 | Carpenter | Sept. 1, 1906 | 75 00 | 12 " | 900 00 |
| " " | C. H. and P.O. | Miss R. Bagshawe | 1866 | Cleaner | Feb. 15, 1905 | 85 00 | 12 " | 1,020 00 |
| " " | Post office | M. Herczuk | 1876 | " | 1910 | 5 00 | 12 " | 60 00 |
| " " | " | Tini Priest | 1873 | " | 1907 | 20 00 | 12 " | 240 00 |
| " " | Ry. Comr. office | Miss R. Derbyshire | Jan. 20, 1844 | " | 1908 | 8 00 | 12 " | 96 00 |
| " " | Custom house | Mrs. M. E. Tittle | Sept. 21, 1868 | " | June 13, 1912 | 60 00 | 12 " | 720 00 |
| " " | Immigration building | P. C. Deevy | July 10, 1877 | Elevatorman | Feb. 9, 1912 | 65 00 | 12 " | 780 00 |
| " " | " | J. Johnson | Nov. 11, 1866 | " | Sept. 20, 1912 | 65 00 | 12 " | 780 00 |
| Calgary, Alta. | P. O. building | W. A. English | Mar. 24, 1874 | Caretaker | Feb. 25, 1873 | 75 00 | 12 " | 900 00 |
| " " | " | A. W. Barber | Dec. 17, 1860 | Asst. caretaker | April 22, 1910 | 75 00 | 12 " | 900 00 |
| " " | " | Thos. Gall | Mar. 7, 1876 | " " | Dec. 11, 1913 | 65 00 | 12 " | 780 00 |
| Edmonton " | " | D. Munro | | Caretaker | Feb. 6, 1913 | 75 00 | 12 " | 900 00 |
| " " | New postoffice | J. Knowles | Sept. 21, 1860 | Asst. caretaker | July 18, 1913 | 60 00 | 12 " | 720 00 |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| " | " | " | L. Darden | July | 17, | 1882 | Fireman | Feb. | 15, | 1913 | 70 | 00 | 12 | " | 840 00 |
| " | " | " | W. C. Hoey | Oct. | 4, | 1859 | Elevatorman | July | 13, | 1913 | 60 | 00 | 12 | " | 720 00 |
| " | " | " | F. Lovell | April | 13, | 1883 | Asst. caretaker | April | 1, | 1912 | 70 | 00 | 12 | " | 840 00 |
| " | " | " | Geo. Lovell | Feb. | 19, | 1879 | Elevatorman | Aug. | 1, | 1912 | 60 | 00 | 12 | " | 720 00 |
| " | " | Dominion lands | J. Duggan | April | 19, | 1871 | Caretaker | Nov. | 27, | 1909 | 25 | 00 | 12 | " | 300 00 |
| Lethbridge | " | Public building | W. C. Norman | Feb. | 7, | 1876 | " | Dec. | 14, | 1909 | 50 | 00 | 12 | " | 600 00 |
| Medicine Hat | " | " | Thos. Taylor | Oct. | 31, | 1875 | " | May | 1, | 1912 | 75 | 00 | 12 | " | 900 00 |
| Red Deer | " | Court house, &c. | L. Grossith | Jan. | 24, | 1883 | " | July | 1, | 1912 | 65 | 00 | 12 | " | 780 00 |
| Strathcona | " | Public building | Hy. Rickard | Nov. | 13, | 1867 | " | Aug. | 1, | 1912 | 75 | 00 | 12 | " | 900 00 |
| Wetaskiwin | " | " | E. F. Phillips | Dec. | 29, | 1862 | " | April | 23, | 1912 | 50 | 00 | 12 | " | 600 00 |
| Battleford | Sask. | Public building | E. M. Webb | July | 26, | 1875 | " | Jan. | 17, | 1912 | 45 | 00 | 12 | " | 540 00 |
| Estevan | " | " | R. Murray | Sept. | 27, | 1856 | " | May | 23, | 1910 | 45 | 00 | 12 | " | 540 00 |
| Humboldt | " | " | N. Kingsley | April | 23, | 1856 | " | Jan. | 1, | 1913 | 50 | 00 | 12 | " | 600 00 |
| Maple Creek | " | " | W. A. Douglas, P.M. | Feb. | 27, | 1856 | " | June | 25, | 1909 | 16 | 66 | 12 | " | 200 00 |
| Moose Jaw | " | Post office | R. West | Sept. | 12, | 1855 | " | Sept. | 21, | 1905 | 54 | 16 | 12 | " | 650 00 |
| Prince Albert | " | Public building | J. Donaldson | Aug. | 7, | 1884 | " | July | 1, | 1912 | 75 | 00 | 12 | " | 900 00 |
| " | " | " | Mrs. A. Whitefor | | | 1893 | Charwoman | Feb. | 1, | 1913 | 30 | 00 | 12 | " | 360 00 |
| " | " | " | F. Cacilino | | | | Fireman | | | | 60 | 00 | 12 | " | 720 00 |
| Regina | " | Land office | T. Perkins | Sept. | 14, | 1852 | " | Sept. | 24, | 1906 | 50 | 00 | 12 | " | 600 00 |
| " | " | Post office | J. Malcolsom | Nov. | 9, | 1857 | " | Sept. | 5, | 1906 | 60 | 00 | 12 | " | 720 00 |
| " | " | " | Mrs. M. Sonoski | May | 3, | 1875 | Cleaner | Nov. | 5, | 1909 | 40 | 00 | 12 | " | 480 00 |
| " | " | " | R. J. Corbin | April | 27, | 1880 | Fireman | April | 1, | 1913 | 55 | 00 | 12 | " | 660 00 |
| " | " | " | J. Rhinelander | Feb. | 6, | 1857 | Elevatorman | May | 3, | 1902 | 50 | 00 | 12 | " | 600 00 |
| " | " | Land office | W. J. Gore | July | 24, | 1863 | Caretaker | May | 6, | 1901 | 50 | 00 | 12 | " | 600 00 |
| Saskatoon | " | Public building | R. Elliott | Sept. | 2, | 1853 | " | June | 1, | 1912 | 75 | 00 | 12 | " | 900 00 |
| " | " | " | John Kearns | May | 15, | 1859 | Asst. caretaker | June | 23, | 1912 | 65 | 00 | 12 | " | 780 00 |
| Yorkton | " | " | E. Arnsby | May | 13, | 1867 | " | Oct. | 1, | 1912 | 45 | 00 | 12 | " | 540 00 |
| Atlin | B.C. | Post office | J. A. Fraser | Jan. | 1, | 1851 | Caretaker | June | 26, | 1901 | 12 | 50 | 12 | " | 150 00 |
| Cranbrook | " | Public building | S. Fyles | Aug. | 14, | 1870 | " | Jan. | 27, | 1913 | 65 | 00 | 12 | " | 780 00 |
| Cumberland | " | " | Thos. Cook | May | 29, | 1844 | " | Jan. | 7, | 1910 | 54 | 16 | 12 | " | 650 00 |
| Fernie | " | " | R. H. McEwen | Dec. | 13, | 1857 | " | Jan. | 2, | 1910 | 70 | 00 | 12 | " | 840 00 |
| Kamloops | " | " | W. W. Taylor | Jan. | 31, | 1853 | " | Dec. | 9, | 1910 | 60 | 00 | 12 | " | 720 00 |
| Ladysmith | " | " | Robert Bell | Feb. | 29, | 1840 | " | April | 1, | 1909 | 50 | 00 | 12 | " | 300 00 |
| Nanaimo | " | " | J. Stewart | Aug. | 20, | 1896 | " | May | 7, | 1912 | 60 | 00 | 12 | " | 720 00 |
| " | " | " | M. Smith | April | 7, | 1863 | Cleaner | July | 29, | 1911 | 55 | 00 | 12 | " | 660 00 |
| New Westminster | " | " | L. Thornber | April | 4, | 1846 | Caretaker | July | 11, | 1906 | 54 | 16 | 12 | " | 650 00 |
| " | " | Indian, &c., building | A. H. Oakley | April | 26, | 1864 | " | Feb. | 2, | 1909 | 50 | 00 | 12 | " | 600 00 |
| Nelson | " | Public building | Wm. Linch | July | 18, | 1853 | " | June | 1, | 1911 | 50 | 00 | 12 | " | 600 00 |
| Rossland | " | " | H. McQuade | Dec. | 14, | 1851 | " | Aug. | 1, | 1906 | 50 | 00 | 12 | " | 600 00 |
| Vancouver | " | " | A. J. Chisholm | April | 18, | 1851 | " | Oct. | 1, | 1903 | 75 | 00 | 12 | " | 900 00 |
| " | " | New building | D. Inches | Dec. | 9, | 1856 | Engineer | Feb. | 1, | 1909 | 95 | 00 | 12 | " | 1,140 00 |
| " | " | Public building | G. Wilson | June | 4, | 1836 | Elevatorman | Oct. | 8, | 1909 | 65 | 00 | 12 | " | 780 00 |
| " | " | " | Jos. Mulvaney | Dec. | 18, | 1885 | Cleaner | Mar. | 1, | 1910 | 70 | 00 | 12 | " | 840 00 |
| " | " | " | G. Small | June | 22, | 1855 | " | June | 13, | 1910 | 70 | 00 | 12 | " | 840 00 |
| " | " | " | J. Dunsmuir | Nov. | 16, | 1858 | " | Jan. | 10, | 1910 | 70 | 00 | 12 | " | 840 00 |
| " | " | New Public building | M. Churchill | June | 13, | 1854 | " | Oct. | 1, | 1911 | 70 | 00 | 12 | " | 840 00 |
| " | " | " | Thos. A. Smith | Oct. | 18, | 1870 | " | Feb. | 1, | 1911 | 70 | 00 | 12 | " | 840 00 |
| " | " | " | F. Paterson | Sept. | 8, | 1859 | " | Aug. | 1, | 1910 | 60 | 00 | 12 | " | 720 00 |
| " | " | " | J. McCourt | Sept. | 15, | 1865 | " | Nov. | 1, | 1910 | 70 | 00 | 12 | " | 840 00 |
| " | " | " | W. J. Chisholm | Sept. | 18, | 1893 | Elevatorman | Feb. | 14, | 1910 | 65 | 00 | 12 | " | 780 00 |

STATEMENT showing the names, etc., of the Engineers, Enginemen, Firemen, Caretakers, Hoist Attendants and Watchmen employed at Dominion Public Buildings on March 31, 1913—*Continued.*

| Place. | Building. | Name. | Date of Birth. | Position. | Date of Appointment. | Monthly Salary. | Time Employed each year. | Yearly Salary. |
|---|---|---|---|---|---|---|---|---|
| | | | | | | $ cts. | | $ cts. |
| Vancouver..... B.C. | P. O. Station..... | J. D. Thompson..... | Jan. 31, 1856 | " .. | Sept. 9, 1912 | 70 00 | 12 months.. | 840 00 |
| Victoria..... " | Public building..... | Wm. McKay..... | Dec. 31, 1857 | Caretaker..... | Feb. 4, 1898 | 85 00 | 12 " .. | 1,020 00 |
| " ..... " | " ..... | Wm. Dick..... | Sept. —, 1856 | Fireman..... | Oct. 1, 1908 | 70 00 | 12 " .. | 840 00 |
| " ..... " | " ..... | Thos. Fuller..... | | Asst. caretaker. | | 70 00 | 12 " .. | 840 00 |
| " ..... " | " ..... | John Cragg..... | Jan. 18, 1856 | Fireman..... | May 1, 1911 | 70 00 | 12 " .. | 840 00 |
| " ..... " | " ..... | A. H. Walker..... | | Cleaner..... | | 70 00 | 12 " .. | 840 00 |
| " ..... " | " ..... | Wm. Alderton..... | Nov. 14, 1886 | Elevatorman.... | Aug. 1, 1912 | 65 00 | 12 " .. | 780 00 |
| " ..... " | " ..... | A. R. Berry ..... | | Cleaner..... | | 70 00 | 12 " .. | 840 00 |
| " ..... " | " ..... | P. Dryborough..... | April 18, 1870 | " ..... | Nov. 20, 1912 | 70 00 | 12 " .. | 840 00 |
| " ..... " | " ..... | W. J. Gower..... | Sept. 6, 1869 | " ..... | May 29, 1912 | 70 00 | 12 " .. | 840 00 |
| " ..... " | Old custom house..... | Geo. Lyall..... | Feb. 12, 1843 | Caretaker..... | May 8, 1910 | 60 00 | 12 " .. | 720 00 |
| " ..... " | Public building..... | J. Drummond..... | June 6, 1864 | " ..... | Dec. 1, 1912 | 80 00 | 12 " .. | 960 00 |
| " ..... " | Old post office..... | W. G. Bowden..... | Mar. 25, 1866 | Caretaker..... | Oct. 1, 1908 | 20 00 | 12 " .. | 240 00 |
| Vernon..... " | Public building..... | C. E. Mober..... | April 28, 1853 | Caretaker..... | Aug. 1, 1912 | 70 00 | 12 " .. | 840 00 |
| Dawson..... Y. T. | Post office..... | R. J. Cogburn..... | Sept. 17, 1852 | Nightman..... | May 1, 1912 | 180 00 | 12 " .. | 2,160 00 |
| " ..... " | " ..... | J. K. Johnstone..... | April 17, 1883 | Caretaker..... | Oct. 17, 1904 | 180 00 | 12 " .. | 2,160 00 |
| " ..... " | Administration building.. | C. Corbeil..... | Dec. 28, 1864 | Charman..... | June 1, 1912 | 180 00 | 12 " .. | 2,160 00 |
| " ..... " | " " .. | J. A. Murphy..... | June 29, 1877 | Caretaker..... | June 10, 1912 | 180 00 | 12 " .. | 2,160 00 |
| " ..... " | " " .. | Alex. Clark..... | Mar. 26, 1853 | Charman..... | July 1, 1912 | 180 00 | 12 " .. | 2,160 00 |
| " ..... " | " " .. | J. A. Craig..... | Oct. 28, 1858 | Nightman..... | June 1, 1912 | 180 00 | 12 " .. | 2,160 00 |
| " ..... " | " " .. | J. A. Ballentine..... | Mar. 15, 1866 | Fireman..... | Jan. 1, 1907 | 180 00 | 12 " .. | 2,160 00 |
| " ..... " | Commissioner's residence. | N. P. McDonald..... | Oct. 8, 1879 | Caretaker..... | Dec. 1, 1905 | 160 00 | 12 " .. | 1,920 00 |
| " ..... " | " " .. | C. Paddock..... | Mar. 19, 1870 | Nightman..... | July 1, 1912 | 160 00 | 12 " .. | 1,920 00 |
| " ..... " | " " .. | Mrs. Ida Jaitke..... | April 27, 1858 | Charwoman.... | Oct. 1, 1908 | 100 00 | 12 " .. | 1,200 00 |
| " ..... " | Police court..... | J. B. Deshauriers..... | July 12, 1875 | Caretaker..... | June 1, 1906 | 160 00 | 12 " .. | 1,920 00 |
| White Horse..... " | Public building..... | C. J. McLennan..... | Dec. 22, 1850 | " ..... | Oct. 30, 1902 | 125 00 | 12 " .. | 1,500 00 |

JOS. VINCENT.